


**STATE OF UTAH**  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

FORM 3

AMENDED REPORT ☐

<b>APPLICATION FOR PERMIT TO DRILL</b>				<b>1. WELL NAME and NUMBER</b> NBU 1022-9B4CS		
<b>2. TYPE OF WORK</b> DRILL NEW WELL <input checked="" type="checkbox"/> REENTER P&A WELL <input type="checkbox"/> DEEPEN WELL <input type="checkbox"/>				<b>3. FIELD OR WILDCAT</b> NATURAL BUTTES		
<b>4. TYPE OF WELL</b> Gas Well <input type="checkbox"/> Coalbed Methane Well: NO <input type="checkbox"/>				<b>5. UNIT or COMMUNITIZATION AGREEMENT NAME</b> NATURAL BUTTES		
<b>6. NAME OF OPERATOR</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.				<b>7. OPERATOR PHONE</b> 720 929-6587		
<b>8. ADDRESS OF OPERATOR</b> P.O. Box 173779, Denver, CO, 80217				<b>9. OPERATOR E-MAIL</b> mary.mondragon@anadarko.com		
<b>10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE)</b> UTU 01196D		<b>11. MINERAL OWNERSHIP</b> FEDERAL <input checked="" type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input type="checkbox"/> FEE <input type="checkbox"/>		<b>12. SURFACE OWNERSHIP</b> FEDERAL <input checked="" type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input type="checkbox"/> FEE <input type="checkbox"/>		
<b>13. NAME OF SURFACE OWNER (if box 12 = 'fee')</b>				<b>14. SURFACE OWNER PHONE (if box 12 = 'fee')</b>		
<b>15. ADDRESS OF SURFACE OWNER (if box 12 = 'fee')</b>				<b>16. SURFACE OWNER E-MAIL (if box 12 = 'fee')</b>		
<b>17. INDIAN ALLOTTEE OR TRIBE NAME (if box 12 = 'INDIAN')</b>		<b>18. INTEND TO COMMINGLE PRODUCTION FROM MULTIPLE FORMATIONS</b> YES <input checked="" type="checkbox"/> (Submit Commingling Application) NO <input type="checkbox"/>		<b>19. SLANT</b> VERTICAL <input type="checkbox"/> DIRECTIONAL <input checked="" type="checkbox"/> HORIZONTAL <input type="checkbox"/>		
<b>20. LOCATION OF WELL</b>	<b>FOOTAGES</b>	<b>QTR-QTR</b>	<b>SECTION</b>	<b>TOWNSHIP</b>	<b>RANGE</b>	<b>MERIDIAN</b>
<b>LOCATION AT SURFACE</b>	228 FNL 2643 FWL	NENW	9	10.0 S	22.0 E	S
<b>Top of Uppermost Producing Zone</b>	1100 FNL 1956 FEL	NWNE	9	10.0 S	22.0 E	S
<b>At Total Depth</b>	1100 FNL 1956 FEL	NWNE	9	10.0 S	22.0 E	S
<b>21. COUNTY</b> UINTAH		<b>22. DISTANCE TO NEAREST LEASE LINE (Feet)</b> 1100		<b>23. NUMBER OF ACRES IN DRILLING UNIT</b> 320		
		<b>25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed)</b> 835		<b>26. PROPOSED DEPTH</b> MD: 9127 TVD: 8900		
<b>27. ELEVATION - GROUND LEVEL</b> 5191		<b>28. BOND NUMBER</b> WYB000291		<b>29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE</b> Permit #43-8496		
<b>ATTACHMENTS</b>						
<b>VERIFY THE FOLLOWING ARE ATTACHED IN ACCORDANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES</b>						
<input checked="" type="checkbox"/> WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER			<input checked="" type="checkbox"/> COMPLETE DRILLING PLAN			
<input type="checkbox"/> AFFIDAVIT OF STATUS OF SURFACE OWNER AGREEMENT (IF FEE SURFACE)			<input type="checkbox"/> FORM 5. IF OPERATOR IS OTHER THAN THE LEASE OWNER			
<input checked="" type="checkbox"/> DIRECTIONAL SURVEY PLAN (IF DIRECTIONALLY OR HORIZONTALLY DRILLED)			<input checked="" type="checkbox"/> TOPOGRAPHICAL MAP			
<b>NAME</b> Danielle Piernot		<b>TITLE</b> Regulatory Analyst		<b>PHONE</b> 720 929-6156		
<b>SIGNATURE</b>		<b>DATE</b> 09/11/2009		<b>EMAIL</b> danielle.piernot@anadarko.com		
<b>API NUMBER ASSIGNED</b> 43047507370000		<b>APPROVAL</b>  Permit Manager				

Proposed Hole, Casing, and Cement						
String	Hole Size	Casing Size	Top (MD)	Bottom (MD)		
Prod	7.875	4.5	0	9127		
Pipe	Grade	Length	Weight			
	Grade I-80 Buttress	9127	11.6			

Proposed Hole, Casing, and Cement						
String	Hole Size	Casing Size	Top (MD)	Bottom (MD)		
Surf	12.25	9.625	0	2180		
Pipe	Grade	Length	Weight			
	Grade J-55 LT&C	2180	36.0			

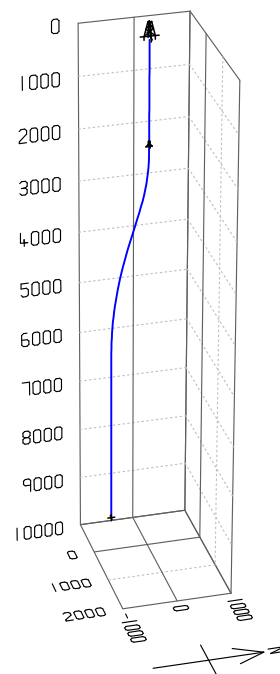
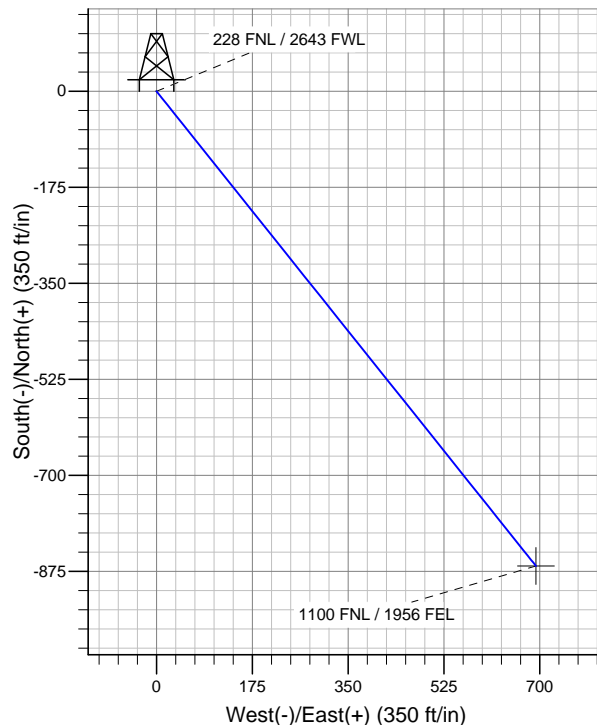
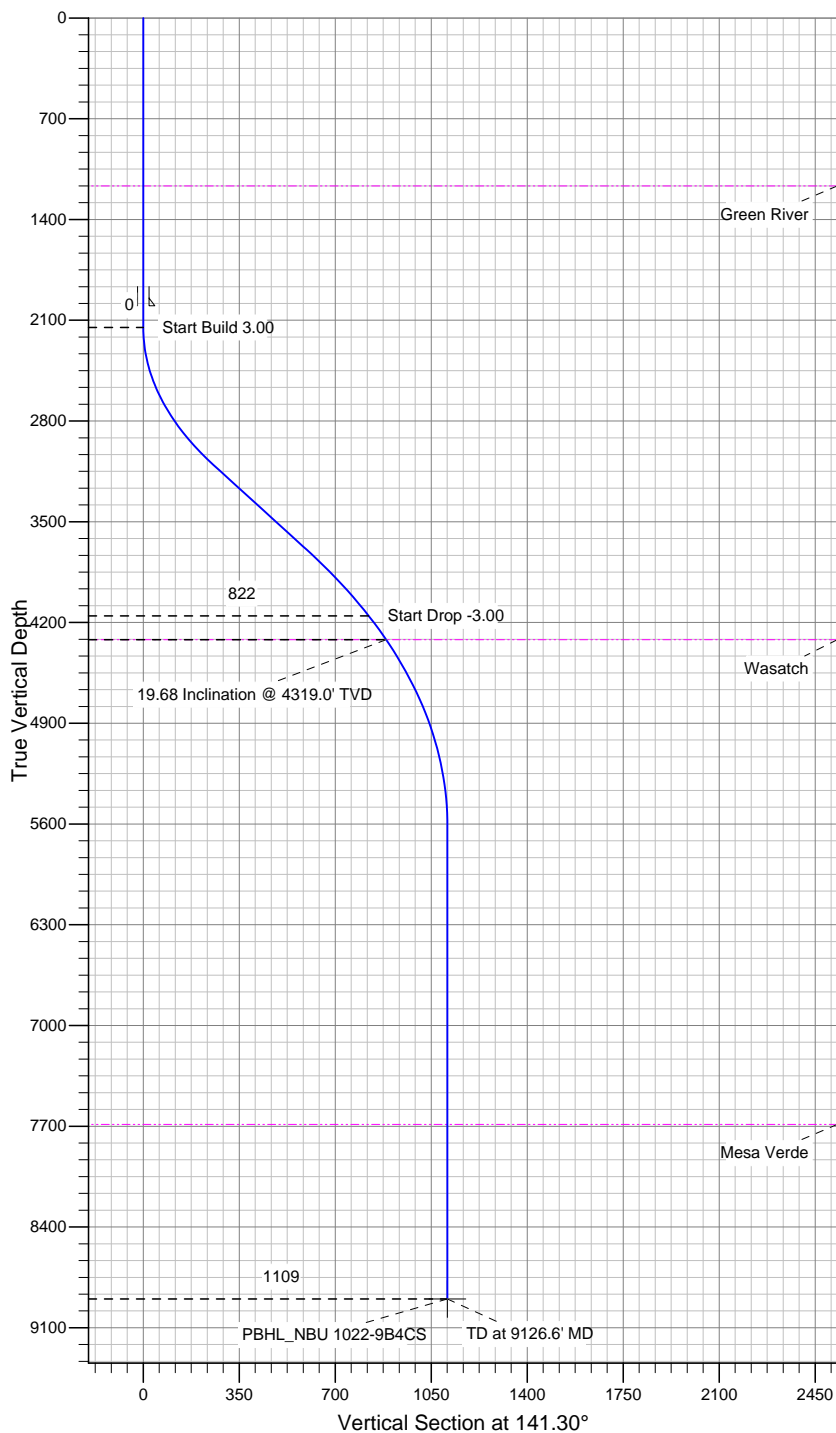






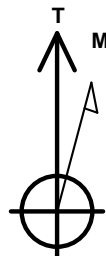
Well Name: P\_NBU 1022-9B4CS  
 Surface Location: UINTAH\_NBU 1022-9C PAD  
 North American Datum 1983 US State Plane 1983  
 UTAH CENTRAL ZONE - 83  
 Ground Elevation: 5190.5

Northing 7164450.77 Easting 2216346.14 Latitude 39° 58' 12.37196 N Longitude 109° 26' 41.34700 W



#### SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0
2	2150.0	0.00	0.00	2150.0	0.0	0.0	0.00	0.00	0.0
3	3150.0	30.00	141.30	3104.9	-199.7	160.0	3.00	141.30	255.9
4	3832.0	30.00	141.30	3695.6	-465.8	373.2	0.00	0.00	596.9
5	5832.0	0.00	0.00	5605.4	-865.2	693.2	1.50	180.00	1108.6
6	9126.6	0.00	0.00	8900.0	-865.2	693.2	0.00	0.00	1108.6



Azimuths to True North  
 Magnetic North: 11.31°

Magnetic Field  
 Strength: 52566.2snT  
 Dip Angle: 65.92°  
 Date: 3/31/2009  
 Model: IGRF200510

**NBU 1022-9B4CS**

Pad: NBU 1022-9C

Surface: 228' FNL 2,643' FWL (NE/4NW/4)

BHL: 1,100' FNL 1,956' FEL (NW/4NE/4)

Sec. 9 T10S R22E

Uintah, Utah

Mineral Lease: UTU 01196D

**ONSHORE ORDER NO. 1**

***DRILLING PROGRAM***

1. – 2. **Estimated Tops of Important Geologic Markers:**  
**Estimated Depths of Anticipated Water, Oil, Gas, or Mineral Formations:**

<u>Formation</u>	<u>Depth</u>	<u>Resource</u>
Uinta	0 – Surface	
Green River	1,167'	
Birds Nest	1,493'	Water
Mahogany	1,976'	Water
Wasatch	4,319'	Gas
Mesaverde	6,755'	Gas
MVU2	7,687'	Gas
MVL1	8,282'	Gas
TVD	8,900'	
TD	9,127'	

3. **Pressure Control Equipment** (Schematic Attached)

*Please refer to the attached Drilling Program.*

4. **Proposed Casing & Cementing Program:**

*Please refer to the attached Drilling Program.*

5. **Drilling Fluids Program:**

*Please refer to the attached Drilling Program.*

6. **Evaluation Program:**

*Please refer to the attached Drilling Program.*

7. **Abnormal Conditions:**

Maximum anticipated bottomhole pressure calculated at 8,900' TVD, approximately equals 5,402 psi (calculated at 0.59 psi/foot).

Maximum anticipated surface pressure equals approximately 3,310 psi (bottomhole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot).

8. **Anticipated Starting Dates:**

*Drilling is planned to commence immediately upon approval of this application.*

9. **Variances:**

*Please refer to the attached Drilling Program.*

*Onshore Order #2 – Air Drilling Variance*

*Kerr-McGee Oil & Gas Onshore LP (KMG) respectfully requests a variance to several requirements associated with air drilling outlined in Onshore Order 2*

- *Blowout Prevention Equipment (BOPE) requirements;*
- *Mud program requirements; and*
- *Special drilling operation (surface equipment placement) requirements associated with air drilling.*

*This Standard Operating Practices addendum provides supporting information as to why KMG current air drilling practices for constructing the surface casing hole should be granted a variance to Onshore Order 2 air drilling requirements.*

*The reader should note that the air rig is used only to construct a stable surface casing hole through a historically difficult lost circulation zone. A conventional rotary rig follows the air rig, and is used to drill and construct the majority of the wellbore.*

*More notable, KMG has used the air rig layout and procedures outlined below to drill the surface casing hole in approximately 675 wells without incident of blow out or loss of life.*

***Background***

*In a typical well, KMG utilizes an air rig for drilling the surface casing hole, an interval from the surface to surface casing depths, which varies in depth from 1,700 to 2,800 feet. The air rig drilling operation does not drill through productive or over pressured formations in KMG field, but does penetrate the Uinta and Green River Formations. The purpose of the air drilling operation is to overcome the severe loss circulation zone in the Green River known as the Bird's Nest while creating a stable hole for the surface casing. The surface casing hole is generally drilled to approximately 500 feet below the Bird's Nest.*

*Before the surface air rig is mobilized, a rathole rig is utilized to set and cement conductor pipe through a competent surface formation. Generally, the conductor is set at 40 feet. In some cases, conductor may be set deeper in areas that the surface formation is not found competent. This rig also drills the rat and mouse holes in preparation for the surface casing and production string drilling operations.*

*The air rig is then mobilized to drill the surface casing hole by drilling a 12-1/4 inch hole to just above the Bird's Nest interval with an air hammer. The hammer is then tripped and replaced with a 12-1/4 inch tri-cone bit. The tri-cone bit is used to drill to the surface casing point, approximately 500 feet below the loss circulation zone (Bird's Nest). The 9-5/8 inch surface casing is then run and cemented in place, thereby isolating the lost circulation zone.*

*KMG fully appreciates Onshore Order 2 well control and safety requirements associated with a typical air drilling operations. However, the requirements of Onshore Order 2 are excessive with respect to the air rig layout and drilling operation procedures that are currently in practice to drill and control the surface casing hole in KMG Fields.*

#### ***Variance for BOPE Requirements***

*The air rig operation utilizes a properly lubricated and maintained air bowl diverter system which diverts the drilling returns to a six-inch blooie line. The air bowl is the only piece of BOPE equipment which is installed during drilling operations and is sufficient to contain the air returns associated with this drilling operation. As was discussed earlier, the drilling of the surface hole does not encounter any over pressured or productive zones, and as a result standard BOPE equipment should not be required. In addition, standard drilling practices do not support the use of BOPE on 40 feet of conductor pipe.*

#### ***Variance for Mud Material Requirements***

*Onshore Order 2 also states that sufficient quantities of mud materials shall be maintained or readily accessible for the purpose of assuring adequate well control. Once again, the surface hole drilling operations does not encounter over pressured or productive intervals, and as a result there is not a need to control pressure in the surface hole with a mud system. Instead of mud, the air rigs utilize water from the reserve pit for well control, if necessary. A skid pump which is located near the reserve pit (see attachment) will supply the water to the well bore.*

#### ***Variance for Special Drilling Operation (surface equipment placement) Requirements***

*Onshore Order 2 requires specific safety distances or setbacks for the placement of associated standard air drilling equipment, wellbore, and reserve pits. The air rigs used to drill the surface holes are not typical of an air rig used to drill a producing hole in other parts of the US. These are smaller in nature and designed to fit a KMG location. The typical air rig layout for drilling surface hole in the field is attached.*

*Typically the blooie line discharge point is required to be 100 feet from the well bore. In the case of a KMG well, the reserve pit is only 45 feet from the rig and is used for the drill cuttings. The blooie line, which transports the drill cuttings from the well to the reserve pit, subsequently discharges only 45 feet from the well bore.*

*Typically the air rig compressors are required to be located in the opposite direction from the blooie line and a minimum of 100 feet from the well bore. At the KMG locations, the air rig compressors are approximately 40 feet from the well bore and approximately 60 feet from the blooie line discharge due to the unique air rig design. The air compressors (see attachment) are located on the rig (1250 cfm) and on a standby trailer (1170 cfm). A booster sits between the two compressors and boosts the output from 350 psi to 2000 psi. The design does put the booster and standby compressor opposite from the blooie line.*

*Lastly, Onshore Order 2 addresses the need for an automatic igniter or continuous pilot light on the blooie line. The air rig does not utilize an igniter as the surface hole drilling operation does not encounter productive formations.*

***Variance for FIT Requirements***

*KMG also respectfully requests a variance to Onshore Order 2, Section III, Part Bi, for the pressure integrity test (PIT, also known as a formation integrity test (FIT)). The air rig operation utilizes a 5M BOPE when drilling. This well is not an exploratory well and is being drilled in an area where the formation integrity is well known. Additionally, when an FIT is run with the mud weight as required, the casing shoe frequently breaks down and causes subsequent lost circulation when drilling the entire depth of the well.*

***Conclusion***

*The air rig operating procedures and the attached air rig layout have effectively maintained well control while drilling the surface holes in KMG Fields. KMG respectfully requests a variance from Onshore Order 2 with respect to air drilling well control requirements as discussed above.*

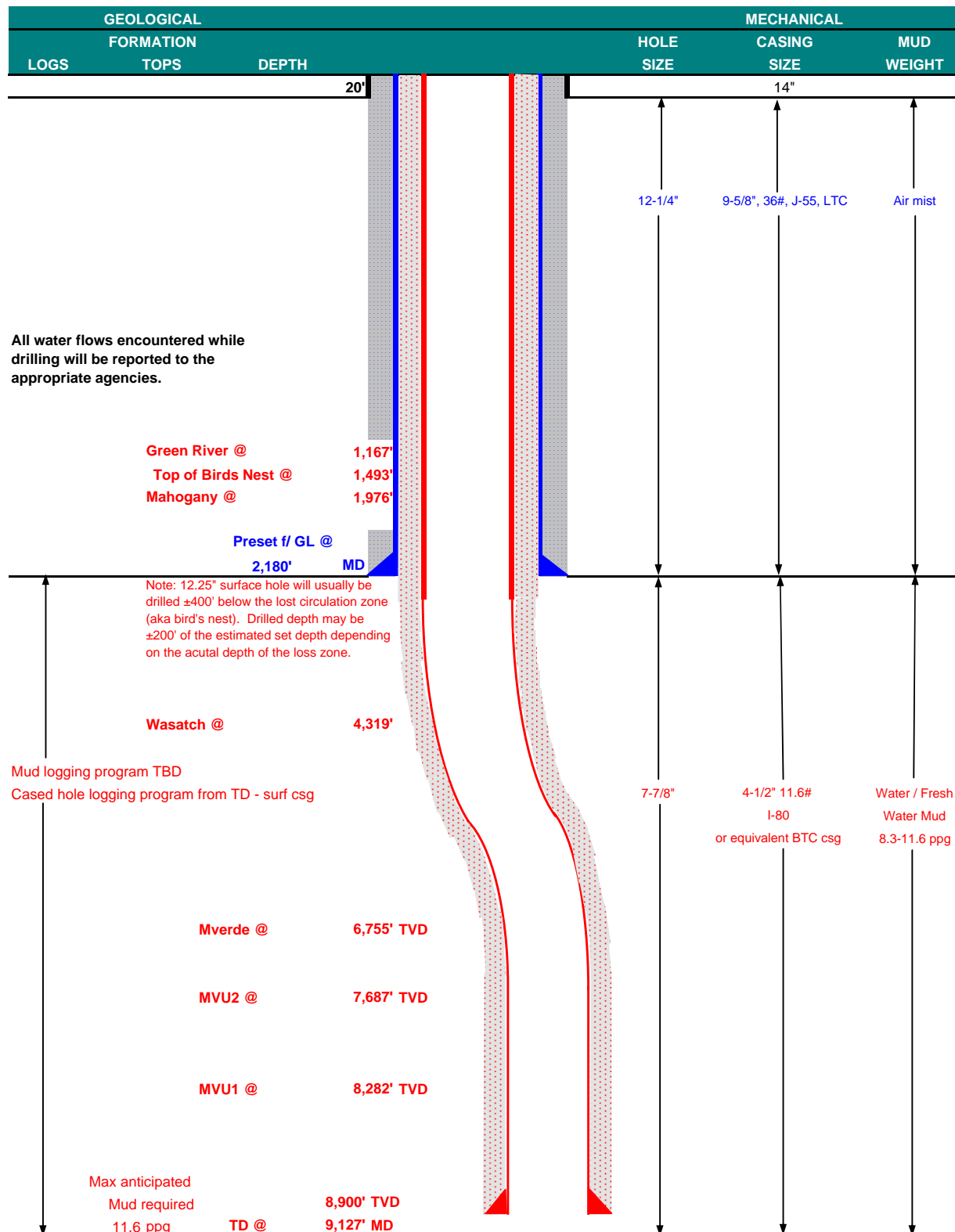
**10. Other Information:**

*Please refer to the attached Drilling Program.*



## KERR-McGEE OIL & GAS ONSHORE LP DRILLING PROGRAM

COMPANY NAME	KERR-McGEE OIL & GAS ONSHORE LP					DATE	September 11, 2009		
WELL NAME	NBU 1022-9B4CS					TD	8,900'	TVD	9,127' MD
FIELD	Natural Buttes		COUNTY	Uintah	STATE	Utah	FINISHED ELEVATION		5,191'
SURFACE LOCATION	NE/4 NW/4	228' FNL	2,643' FWL	Sec 9	T 10S	R 22E			
	Latitude: 39.970103		Longitude: -109.444818		NAD 83				
BTM HOLE LOCATION	NW/4 NE/4	1,100' FNL	1,956' FEL	Sec 9	T 10S	R 22E			
	Latitude: 39.967728		Longitude: -109.442345		NAD 83				
OBJECTIVE ZONE(S)	Wasatch/Mesaverde								
ADDITIONAL INFO	Regulatory Agencies: BLM (Minerals), BLM (Surface), UDOGM Tri-County Health Dept.								





## KERR-McGEE OIL & GAS ONSHORE LP

### DRILLING PROGRAM

#### CASING PROGRAM

	SIZE	INTERVAL	WT.	GR.	CPLG.	DESIGN FACTORS		
						BURST	COLLAPSE	TENSION
CONDUCTOR	14"	0-40'				3,520	2,020	453,000
SURFACE	9-5/8"	0 to 2,180	36.00	J-55	LTC	1.01	1.98	7.35
						7,780	6,350	278,000
PRODUCTION	4-1/2"	0 to 9,127	11.60	I-80	BTC	2.28	1.18	3.01

1) Max Anticipated Surf. Press.(MASP) (Surface Casing) = (Pore Pressure at next csg point-(0.22 psi/ft-partial evac gradient x TVD of next csg point))

2) MASP (Prod Casing) = Pore Pressure at TD - (0.22 psi/ft-partial evac gradient x TD)

(Burst Assumptions: TD = 11.6 ppg)

0.22 psi/ft = gradient for partially evac wellbore

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

**MASP 3,310 psi**

3) Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD

(Burst Assumptions: TD = 11.6 ppg)

0.59 psi/ft = bottomhole gradient

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

**MABHP 5,402 psi**

#### CEMENT PROGRAM

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE	LEAD	500'	Premium cmt + 2% CaCl	215	60%	15.60	1.18
			+ 0.25 pps flocele				
Option 1	TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt	380	0%	15.60	1.18
			+ 2% CaCl + 0.25 pps flocele				
			Premium cmt + 2% CaCl				
SURFACE		<b>NOTE: If well will circulate water to surface, option 2 will be utilized</b>					
Option 2	LEAD	1,680'	65/35 Poz + 6% Gel + 10 pps gilsonite	400	35%	12.60	1.81
			+ 0.25 pps Flocele + 3% salt BWOW				
	TAIL	500'	Premium cmt + 2% CaCl	180	35%	15.60	1.18
			+ 0.25 pps flocele				
	TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.60	1.18
PRODUCTION	LEAD	3,817'	Premium Lite II + 3% KCl + 0.25 pps	360	40%	11.00	3.38
			celloflake + 5 pps gilsonite + 10% gel				
			+ 0.5% extender				
	TAIL	5,310'	50/50 Poz/G + 10% salt + 2% gel	1,300	40%	14.30	1.31
			+ 0.1% R-3				

\*Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained

\*Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

#### FLOAT EQUIPMENT & CENTRALIZERS

SURFACE	Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe
PRODUCTION	Float shoe, 1 jt, float collar. No centralizers will be used.

#### ADDITIONAL INFORMATION

Test casing head to 750 psi after installing. Test surface casing to 1,500 psi prior to drilling out.

BOPE: 11" 5M with one annular and 2 rams. The BOPE will be installed before the production hole is drilled and tested to 5,000 psi (annular to 2,500 psi) prior to drilling out the surface casing shoe. Record on chart recorder and tour sheet. Function test rams on each trip. Maintain safety valve and inside BOP on rig floor at all times. Most rigs have top drives; however, if used, the Kelly is to be equipped with upper and lower kelly valves.

Surveys will be taken at 1,000' minimum intervals.

Most rigs have PVT System for mud monitoring. If no PVT is available, visual monitoring will be utilized.

DRILLING ENGINEER:

John Huycke / Emile Goodwin

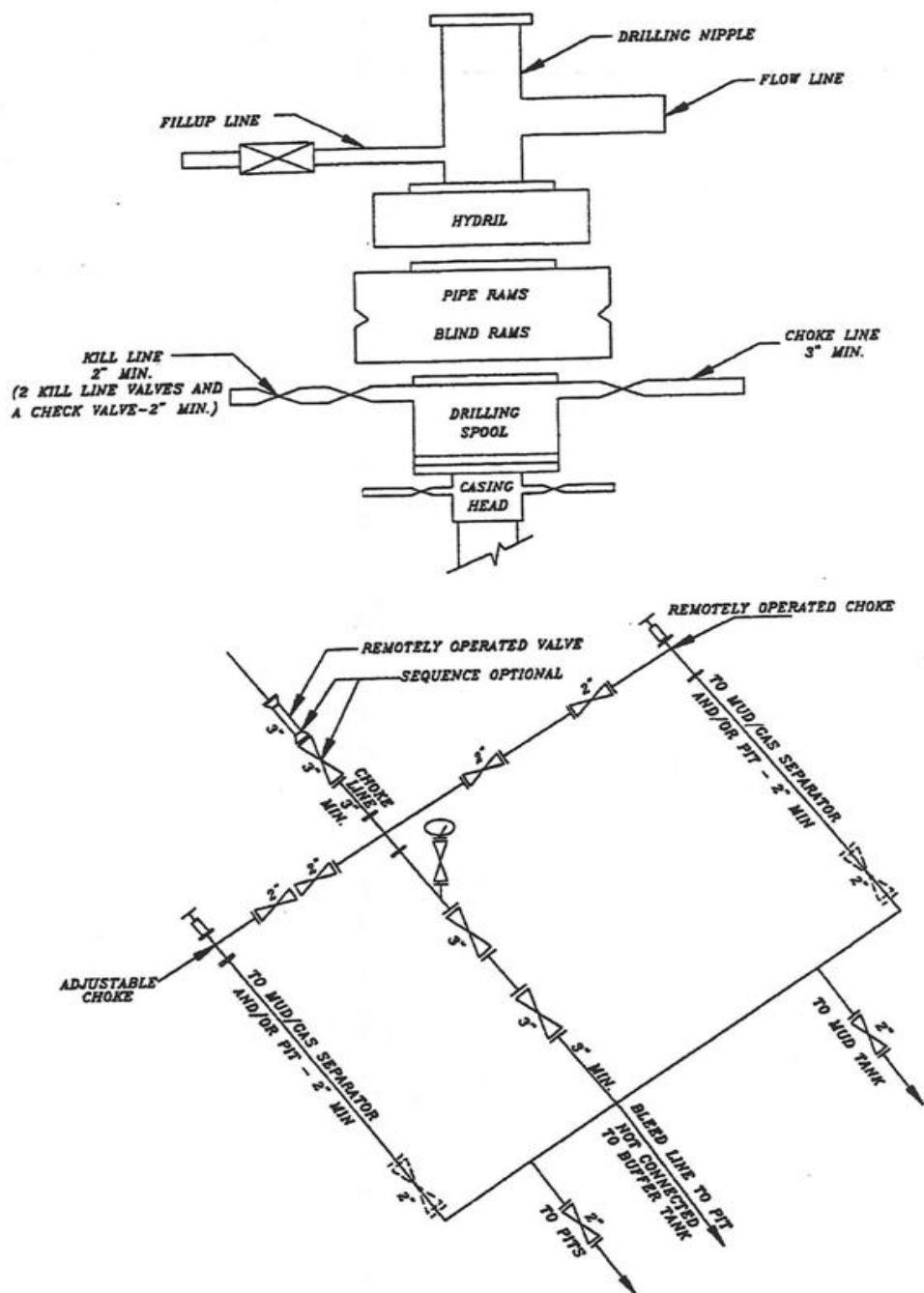
DATE:

DRILLING SUPERINTENDENT:

John Merkel / Lovel Young

DATE:

# EXHIBIT A NBU 1022-9B4CS

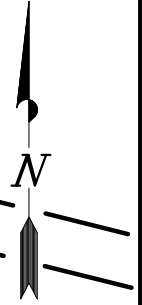


SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK



# WELL PAD INTERFERENCE PLAT

## DIRECTIONAL PAD – NBU 1022–9C



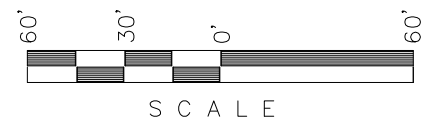
LATITUDE & LONGITUDE Surface Position – (NAD 83)		
WELL	N. LATITUDE	W. LONGITUDE
1022–9B4CS	39°58'12.372" 39.970103°	109°26'41.347" 109.444818°
1022–9C4DS	39°58'12.382" 39.970106°	109°26'41.603" 109.444890°
1022–9C3CS	39°58'12.401" 39.970111°	109°26'42.117" 109.445033°
1022–9C2DS	39°58'12.412" 39.970114°	109°26'42.373" 109.445104°
Existing Well NBU 1022–9C	39°58'12.392" 39.970109°	109°26'41.860" 109.444961°

LATITUDE & LONGITUDE Surface Position – (NAD 27)		
WELL	N. LATITUDE	W. LONGITUDE
1022–9B4CS	39°58'12.496" 39.970138°	109°26'38.887" 109.444135°
1022–9C4DS	39°58'12.506" 39.970141°	109°26'39.144" 109.444207°
1022–9C3CS	39°58'12.525" 39.970146°	109°26'39.657" 109.444349°
1022–9C2DS	39°58'12.536" 39.970149°	109°26'39.914" 109.444420°
Existing Well NBU 1022–9C	39°58'12.516" 39.970143°	109°26'39.401" 109.444278°

LATITUDE & LONGITUDE Bottom Hole – (NAD 83)		
WELL	N. LATITUDE	W. LONGITUDE
1022–9B4CS	39°58'03.821" 39.967728°	109°26'32.443" 109.442345°
1022–9C4DS	39°58'03.354" 39.967598°	109°26'43.088" 109.445302°
1022–9C3CS	39°58'03.468" 39.967630°	109°26'55.377" 109.448716°
1022–9C2DS	39°58'08.799" 39.969111°	109°26'52.390" 109.447886°

LATITUDE & LONGITUDE Bottom Hole – (NAD 27)		
WELL	N. LATITUDE	W. LONGITUDE
1022–9B4CS	39°58'03.945" 39.967763°	109°26'29.984" 109.441662°
1022–9C4DS	39°58'03.478" 39.967633°	109°26'40.629" 109.444619°
1022–9C3CS	39°58'03.592" 39.967664°	109°26'52.917" 109.448032°
1022–9C2DS	39°58'08.924" 39.969145°	109°26'49.930" 109.447203°

RELATIVE COORDINATES From Surface Position to Bottom Hole		
WELL	NORTH	EAST
1022–9B4CS	–865'	694'
1022–9C4DS	–914'	–115'
1022–9C3CS	–904'	–1,032'
1022–9C2DS	–366'	–780'

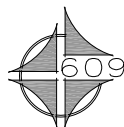


SCALE

**Kerr–McGee**  
Oil & Gas Onshore, LP

1099 18th Street – Denver, Colorado 80202

NBU 1022–9B4CS, NBU 1022–9C4DS,  
NBU 1022–9C3CS & NBU 1022–9C2DS  
LOCATED IN SECTION 9, T10S, R22E,  
S.L.B.&M. UTAH COUNTY, UTAH.



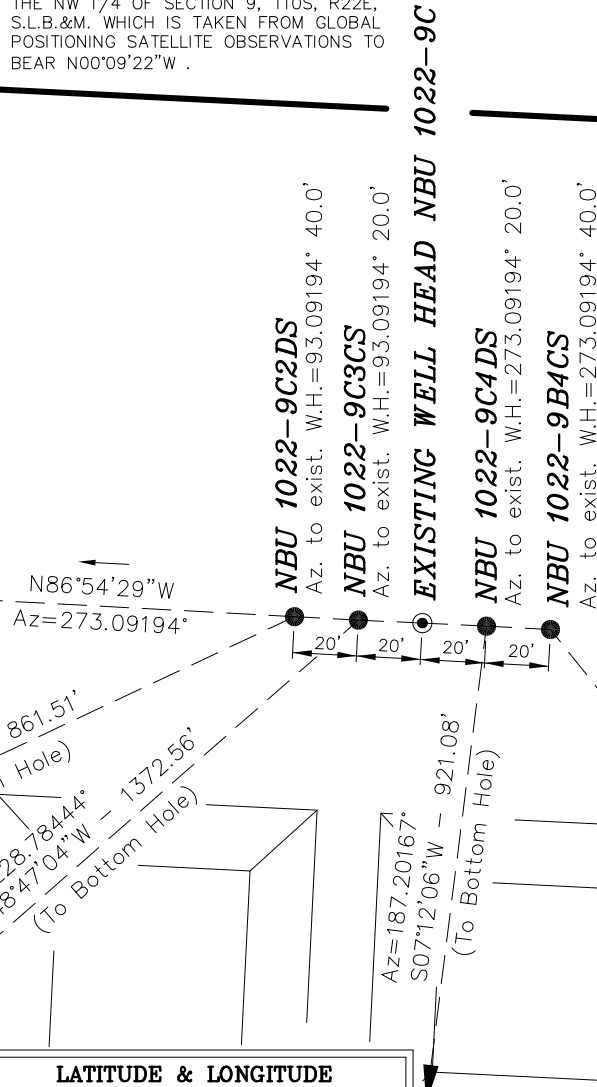
CONSULTING, LLC  
371 Coffeen Avenue  
Sheridan WY 82801  
Phone 307-674-0609  
Fax 307-674-0182

DATE SURVEYED: 09-26-08	SURVEYED BY: M.S.B.
DATE DRAWN: 10-06-08	DRAWN BY: M.W.W.
	REVISED: 01-22-09

**Timberline** (435) 789-1365  
Engineering & Land Surveying, Inc.  
209 NORTH 300 WEST VERNAL, UTAH 84078

SHEET  
5  
OF 13

BASIS OF BEARINGS IS THE WEST LINE OF  
THE NW 1/4 OF SECTION 9, T10S, R22E,  
S.L.B.&M. WHICH IS TAKEN FROM GLOBAL  
POSITIONING SATELLITE OBSERVATIONS TO  
BEAR N00°09'22"W .

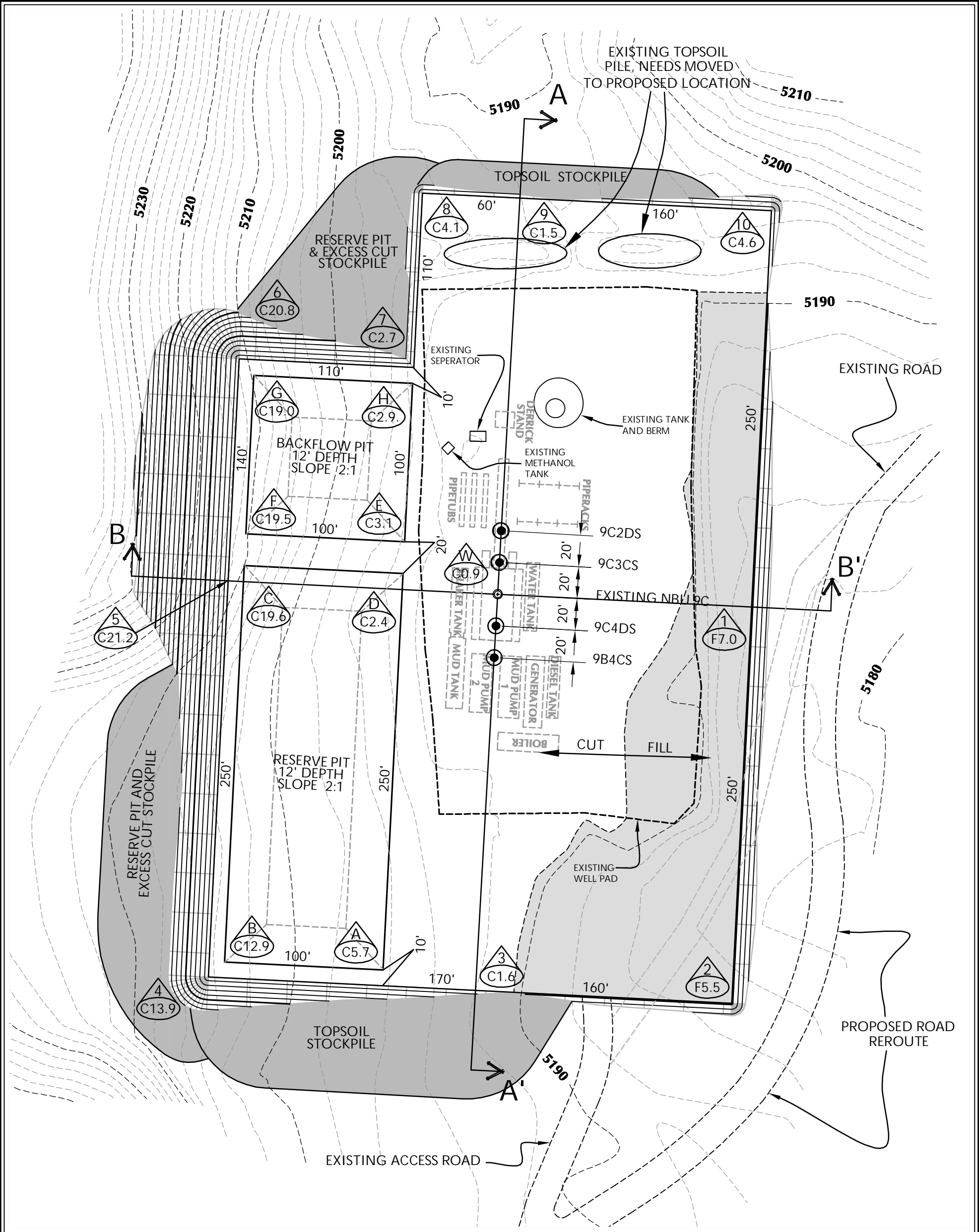


### SURFACE POSITION FOOTAGES:

NBU 1022–9B4CS	228' FNL & 2643' FWL
NBU 1022–9C4DS	227' FNL & 2623' FWL
NBU 1022–9C3CS	225' FNL & 2583' FWL
NBU 1022–9C2DS	224' FNL & 2563' FWL
NBU 1022–9C (Existing Well Head)	226' FNL & 2603' FWL

### BOTTOM HOLE FOOTAGES

NBU 1022–9B4CS	1100' FNL & 1956' FEL
NBU 1022–9C4DS	1141' FNL & 2505' FWL
NBU 1022–9C3CS	1131' FNL & 1548' FWL
NBU 1022–9C2DS	591' FNL & 1782' FWL



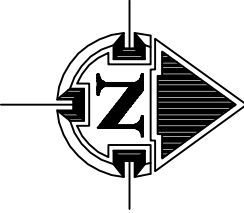
WELL PAD NBU 1022-9C QUANTITIES

EXISTING GRADE @ CENTER OF PAD = 5,191.4'  
FINISHED GRADE ELEVATION = 5,190.5'  
CUT SLOPES = 1.5:1  
FILL SLOPES = 1.5:1

TOTAL CUT FOR WELL PAD = 24,373 C.Y.  
TOTAL FILL FOR WELL PAD = 5,349 C.Y.  
TOPSOIL @ 6" DEPTH = 2,309 C.Y.  
EXCESS MATERIAL = 19,024 C.Y.  
TOTAL DISTURBANCE = 4.15 ACRES  
SHRINKAGE FACTOR = 1.10  
SWELL FACTOR = 1.00  
RESERVE PIT CAPACITY (2' OF FREEBOARD)  
+/- 28,730 BARRELS  
RESERVE PIT VOLUME  
+/- 7,720 CY  
BACKFLOW PIT CAPACITY (2' OF FREEBOARD)  
+/- 9,490 BARRELS  
BACKFLOW PIT VOLUME  
+/- 2,660 CY

WELL PAD LEGEND

- EXISTING WELL LOCATION
- PROPOSED WELL LOCATION
- EXISTING CONTOURS (2' INTERVAL)
- PROPOSED CONTOURS (2' INTERVAL)



HORIZONTAL 0 30 60 1" = 60'  
2' CONTOURS

KERR-MCGEE OIL & GAS  
ONSHORE L.P.  
1099 18th Street - Denver, Colorado 80202

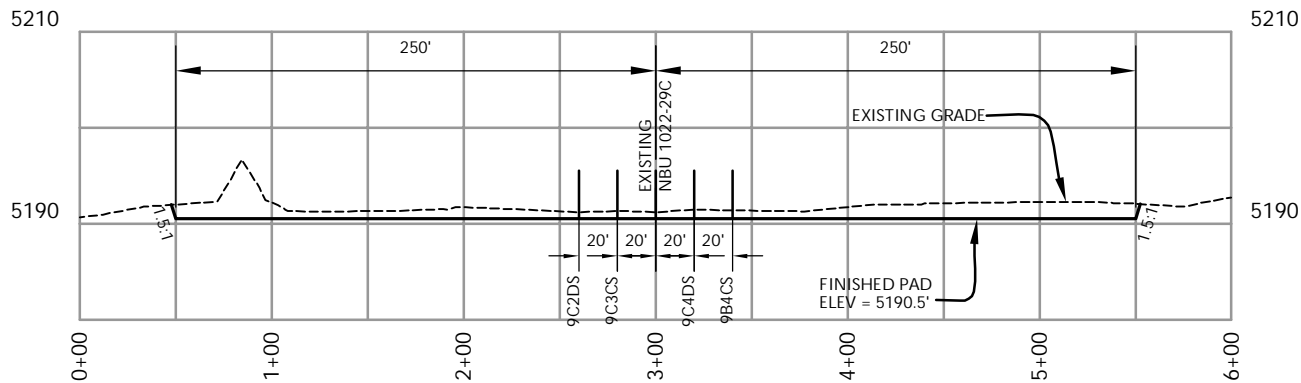


CONSULTING, LLC  
371 Coffeen Avenue  
Sheridan WY 82801  
Phone 307-674-0609  
Fax 307-674-0182

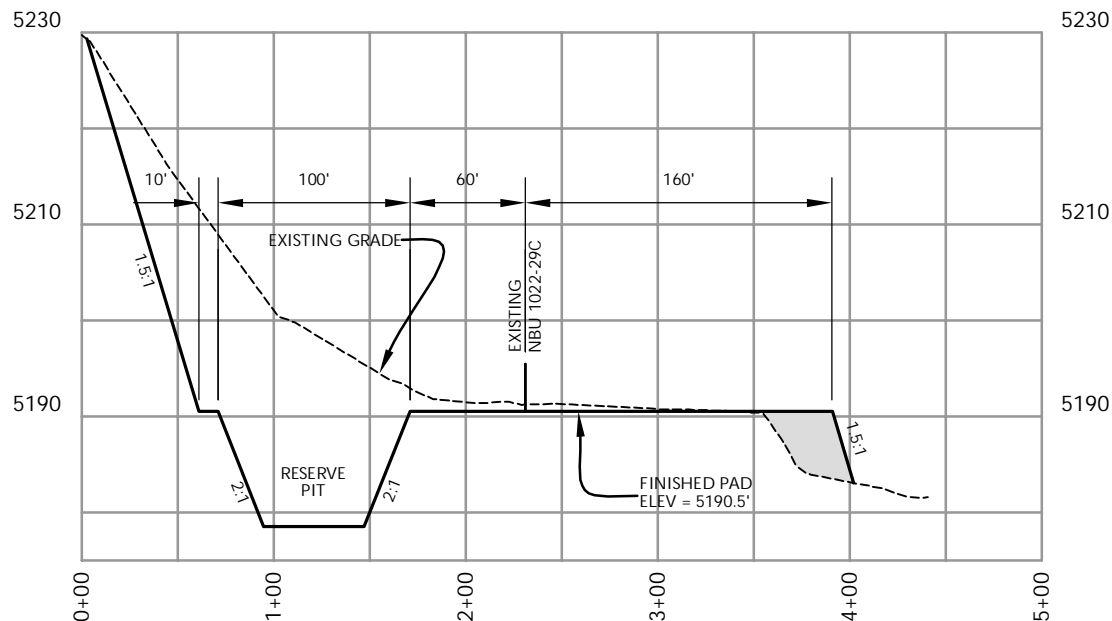
Scale: 1"=60'	Date: 2/11/09	SHEET NO:
	BY DATE	6
REVISED:		6 OF 13

WELL PAD - LOCATION LAYOUT  
NBU 1022-9B4CS, NBU 1022-9C4DS,  
NBU 1022-9C3CS, NBU 1022-9C2DS  
LOCATED IN SECTION 9, T.10S., R.22E.  
S.L.B.&M., UINTAH COUNTY, UTAH

**Timberline** (435) 789-1365  
Engineering & Land Surveying, Inc.  
38 WEST 100 NORTH VERNAL, UTAH 84078



**CROSS SECTION A-A'**



**CROSS SECTION B-B'**

NOTE: CROSS SECTION B-B' DEPICTS  
MAXIMUM RESERVE PIT DEPTH.

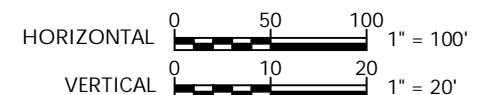
KERR-MCGEE OIL & GAS  
ONSHORE L.P.  
1099 18th Street - Denver, Colorado 80202

WELL PAD - CROSS SECTIONS  
NBU 1022-9B4CS, NBU 1022-9C4DS,  
NBU 1022-9C3CS, NBU 1022-9C2DS  
LOCATED IN SECTION 9, T.10S., R.22E.  
S.L.B.&M., UINTAH COUNTY, UTAH



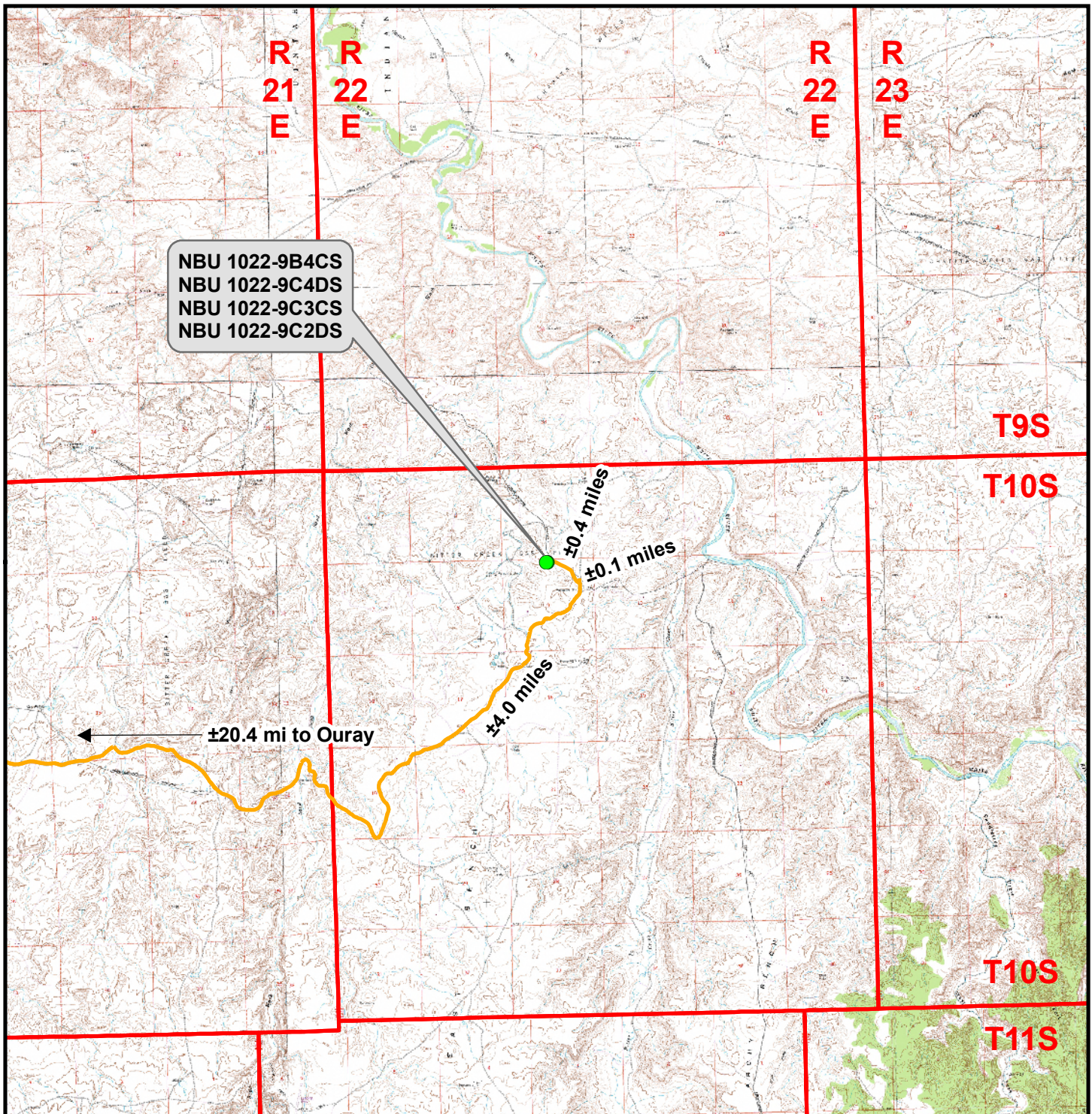
CONSULTING, LLC  
371 Coffeen Avenue  
Sheridan WY 82801  
Phone 307-674-0609  
Fax 307-674-0182

Scale: 1"=100'	Date: 2/11/09	SHEET NO:
REVISED:	BY DATE	7 7 OF 13



**Timberline** (435) 789-1365  
Engineering & Land Surveying, Inc.  
38 WEST 100 NORTH VERNAL, UTAH 84078





### Legend

- Proposed Well Location
- Access Route - Proposed

**Kerr-McGee Oil & Gas Onshore, LP**  
1099 18th Street, Denver, Colorado 80202

**NBU 1022-9B4CS, NBU 1022-9C4DS,  
NBU 1022-9C3CS & NBU 1022-9C2DS**  
**Topo A**  
**Located In Section 9, T10S, R22E**  
**S.L.B.&M., Uintah County, Utah**



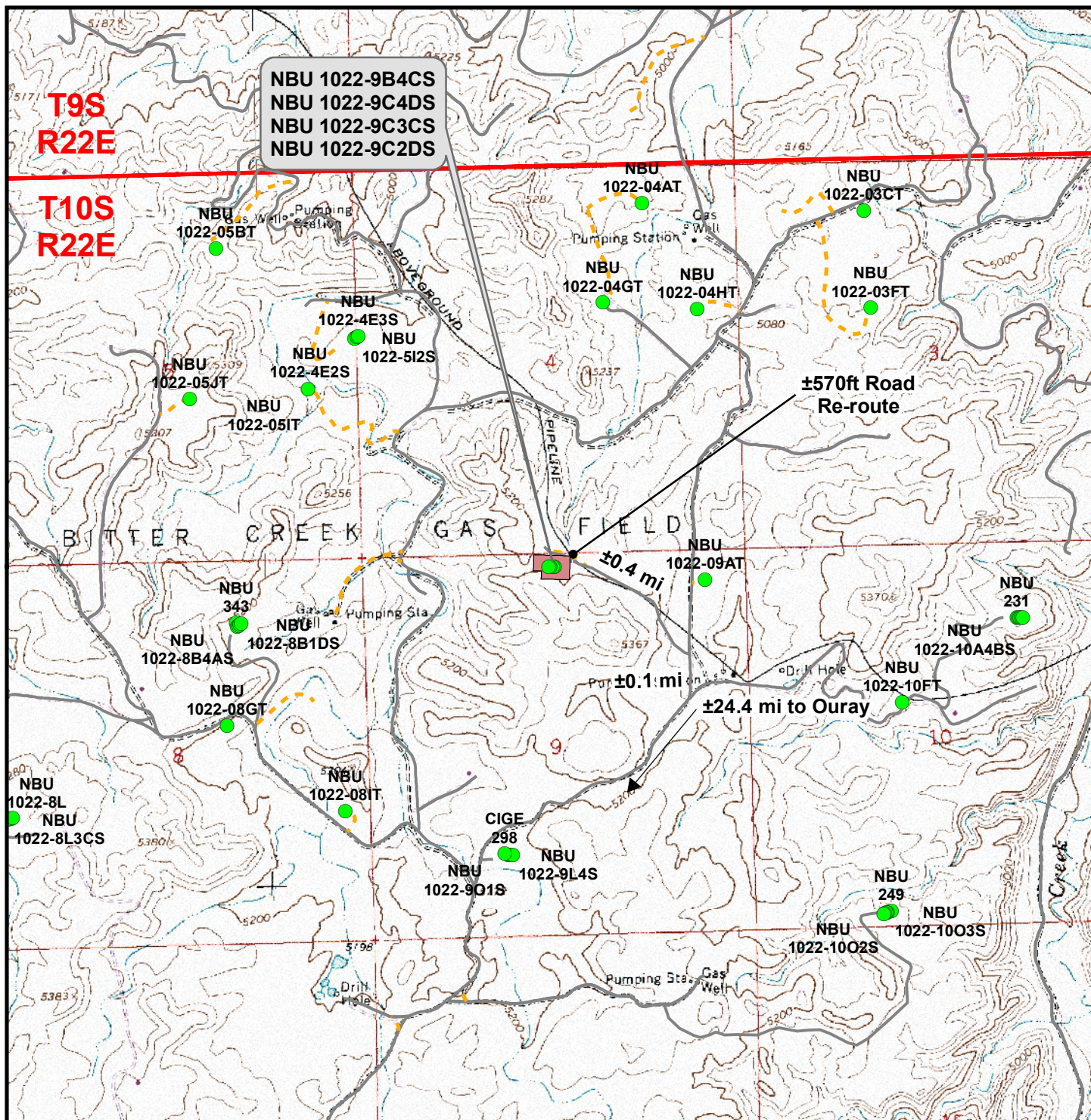
Scale: 1:100,000	NAD83 USP Central
Drawn: JELO	Date: 10 Feb 2009
Revised:	Date:

Sheet No:

**9**

9 of 13





### Legend

- Well - Proposed
- Well Pad
- Road - Proposed
- Road - Existing

Total Proposed Road Length: ±570ft

**Kerr-McGee Oil & Gas Onshore, LP**  
1099 18th Street, Denver, Colorado 80202

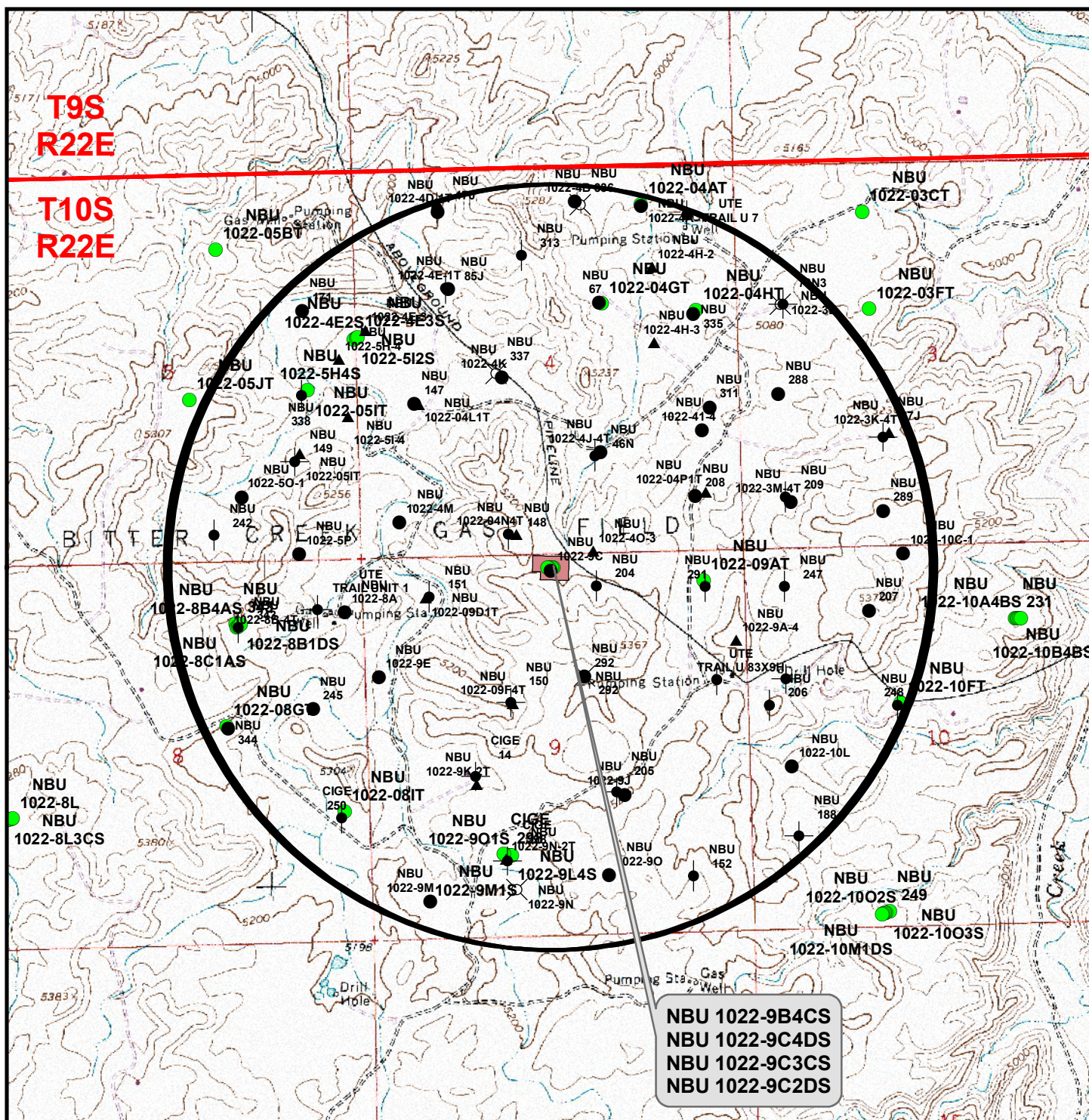
**NBU 1022-9B4CS, NBU 1022-9C4DS,  
NBU 1022-9C3CS & NBU 1022-9C2DS**  
**Topo B**  
**Located In Section 9, T10S, R22E**  
**S.L.B.&M., Uintah County, Utah**



Scale: 1" = 2000ft	NAD83 USP Central
Drawn: JELO	Date: 10 Feb 2009
Revised:	Date:

Sheet No:  
**10** 10 of 13





### Legend

- |  |   |   |  |  |
|--|---|---|--|--|
| <span style="color: green;">●</span> Well - Proposed   | <span style="border: 1px solid black; display: inline-block; width: 20px; height: 10px;"></span> Well - 1 Mile Radius | <span style="color: black;">●</span> Producing                                      | <span style="color: grey;">✕</span> Location Abandoned     | <span style="color: black;">●</span> Shut-In |
| <span style="background-color: #d2b48c; border: 1px solid black; display: inline-block; width: 20px; height: 10px;"></span> Well Pad |   | <span style="color: black;">▲</span> Approved permit (APD); not yet spudded         | <span style="color: black;">●</span> Temporarily-Abandoned |  |
|  |   | <span style="color: black;">○</span> Spudded (Drilling commenced: Not yet complete) | <span style="color: black;">●</span> Plugged and Abandoned |  |

**Kerr-McGee Oil & Gas Onshore, LP**  
1099 18th Street, Denver, Colorado 80202

**NBU 1022-9B4CS, NBU 1022-9C4DS,  
NBU 1022-9C3CS & NBU 1022-9C2DS**  
**Topo C**  
**Located In Section 9, T10S, R22E**  
**S.L.B.&M., Uintah County, Utah**



Scale: 1" = 2000ft	NAD83 USP Central	Sheet No:
Drawn: JELO	Date: 10 Feb 2009	<b>11</b> 11 of 13
Revised:	Date:	



Scale: 1" = 2000ft	NAD83 USP Central	Sheet No:
Drawn: JELO	Date: 10 Feb 2009	<b>12</b> 12 of 13
Revised:	Date:	



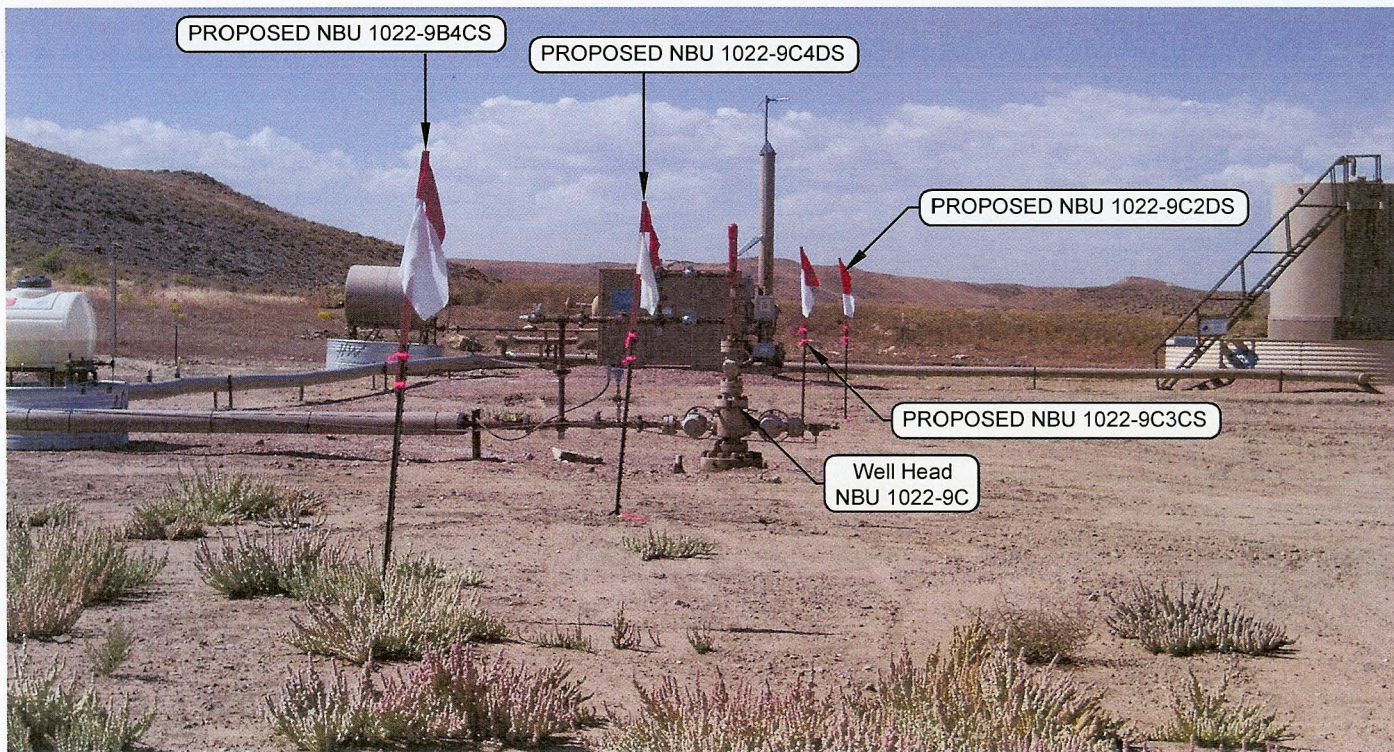


PHOTO VIEW: TO LOCATION STAKES

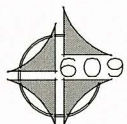
CAMERA ANGLE: WESTERLY



PHOTO VIEW: FROM EXISTING ROAD

CAMERA ANGLE: WESTERLY

**Kerr-McGee**  
Oil & Gas Onshore, LP  
1099 18th Street - Denver, Colorado 80202



CONSULTING, LLC  
371 Coffeen Avenue  
Sheridan WY 82801  
Phone 307-674-0609  
Fax 307-674-0182

NBU 1022-9B4CS, NBU 1022-9C4DS,  
NBU 1022-9C3CS & NBU1022-9C2DS  
LOCATED IN SECTION 9, T10S, R22E,  
S.L.B.&M. UINTAH COUNTY, UTAH.

### LOCATION PHOTOS

TAKEN BY: M.S.B.

DRAWN BY: M.W.W.

DATE TAKEN: 09-26-08

DATE DRAWN: 10-06-08

REVISED: 02-07-09

**Timberline** (435) 789-1365  
Engineering & Land Surveying, Inc.  
209 NORTH 300 WEST VERNAL, UTAH 84078

SHEET  
**8**  
OF 13



**Kerr-McGee Oil & Gas Onshore, LP**  
**NBU 1022-9B4CS, NBU 1022-9C4DS, NBU 1022-9C3CS & NBU 1022-9C2DS**  
**Section 9, T10S, R22E, S.L.B.&M.**

PROCEED IN A WESTERLY DIRECTION FROM VERNAL, UTAH ALONG U.S. HIGHWAY 40 APPROXIMATELY 13.9 MILES TO THE JUNCTION OF STATE HIGHWAY 88. EXIT LEFT AND PROCEED IN A SOUTHERLY DIRECTION ALONG STATE HIGHWAY 88 APPROXIMATELY 16.8 MILES TO OURAY, UTAH. FROM OURAY, PROCEED IN A SOUTHERLY DIRECTION ALONG THE SEEP RIDGE ROAD (COUNTY B ROAD 2810) APPROXIMATELY 11.2 MILES TO THE INTERSECTION OF THE GLEN BENCH ROAD (COUNTY B ROAD 3260). EXIT LEFT AND PROCEED IN AN EASTERLY, THEN SOUTHEASTERLY DIRECTION ALONG THE GLEN BENCH ROAD APPROXIMATELY 5.2 MILES TO THE INTERSECTION OF THE BITTER CREEK ROAD (COUNTY B ROAD 4120). EXIT RIGHT AND PROCEED IN A SOUTHEASTERLY DIRECTION ALONG THE BITTER CREEK ROAD APPROXIMATELY 4.0 MILES TO A CLASS D COUNTY ROAD RUNNING NORTHEASTERLY. EXIT LEFT AND PROCEED IN A NORTHEASTERLY DIRECTION ALONG THE CLASS D COUNTY ROAD APPROXIMATELY 4.0 MILES TO A SECOND CLASS D COUNTY ROAD RUNNING NORTHERLY. EXIT LEFT AND PROCEED IN A NORTHERLY DIRECTION ALONG THE SECOND CLASS D COUNTY ROAD APPROXIMATELY 0.1 MILES TO A SERVICE ROAD RUNNING NORTHWESTERLY. EXIT LEFT AND PROCEED IN A NORTHWESTERLY DIRECTION ALONG THE SERVICE ROAD APPROXIMATELY 0.4 MILES TO THE EXISTING WELL PAD.

TOTAL DISTANCE FROM VERNAL, UTAH TO THE PROPOSED WELL LOCATION IS APPROXIMATELY 55.6 MILES IN A SOUTHERLY DIRECTION.

**NBU 1022-9B4CS**

Surface: 228' FNL 2,643' FWL (NE/4NW/4)  
BHL: 1,100' FNL 1,956' FEL (NW/4NE/4)  
Mineral Lease: UTU 01196D

**NBU 1022-9C2DS**

Surface: 224' FNL 2,563' FWL (NE/4NW/4)  
BHL: 591' FNL 1,782' FEL (NE/4NW/4)  
Mineral Lease: UTU 01196B

**NBU 1022-9C3CS**

Surface: 225' FNL 2,583' FWL (NE/4NW/4)  
BHL: 1,131' FNL 1,548' FWL (NE/4NW/4)  
Mineral Lease: UTU 01196B

**NBU 1022-9C4DS**

Surface: 227' FNL 2,623' FWL (NE/4NW/4)  
BHL: 1,141' FNL 2,505' FWL (NE/4NW/4)  
Mineral Lease: UTU 01196B

Pad: NBU 1022-9C  
Sec. 9 T10S R22E

Uintah, Utah

**ONSHORE ORDER NO. 1**

***MULTI-POINT SURFACE USE & OPERATIONS PLAN  
SUBMITTED WITH SITE-SPECIFIC INFORMATION***

This Application for Permit to Drill (APD) is filed under the Notice of Staking (NOS) process as stated in Onshore Order No. 1 (OSO #1) and supporting Bureau of Land Management (BLM) documents. An NOS was submitted on March 16, 2009 showing the surface locations in NE/4 NW/4 of Section 9 T10S R22E.

This Surface Use Plan of Operations (SUPO) or 13-point plan provides the site-specific information for the above-referenced wells. This information is to be incorporated by reference into the Master Development Plan (MDP) for Kerr-McGee Oil & Gas Onshore LP (Kerr-McGee). The MDP is available upon request from the BLM-Vernal Field Office.

An on-site meeting was held on March 31, 2009. Present were:

- Verlyn Pindell, Dave Gordon – BLM;
- Kolby Kay – 609 Consulting, LLC
- Tony Kazeck, Raleen White, Sheila Upchego, Grizz Oleen, Hal Blanchard, Charles Chase and Jeff Samuels – Kerr-McGee.

**Directional Drilling:**

In accordance with Utah Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling, this well will be directionally drilled in order to access portions of our lease which are otherwise inaccessible due to topography.

**A. Existing Roads:**

- A) Refer to Topo Map A for directions to the location.
- B) Refer to Topo Maps A and B for location of access roads within a 2-mile radius.

**B. Planned Access Roads:**

*See MDP for additional details on road construction.*

Approximately  $\pm 570'$  ( $\pm 0.11$  mile) of road re-route is proposed. Please refer to the attached Topo Map B. No pipelines will be crossed with the new construction.

*Existence of pipelines; maximum grade; turnouts; major cut and fills, culverts, or bridges; gates, cattle guards, fence cuts, or modifications to existing facilities were determined at the on-site and are typically shown on the attached Exhibits and Topo maps.*

**C. Location of Existing Wells Within a 1-Mile Radius:**

Please refer to Topo Map C.

**D. Location of Existing and Proposed Facilities:**

*See MDP for additional details on Existing and Proposed Facilities.*

This pad will expand the existing pad for the NBU 1022-9C, which is a producing well according to Utah Division of Oil, Gas and Mining (UDOGM) records.

*The following guidelines will apply if the well is productive.*

**Approximately  $\pm 1,325'$  ( $\pm 0.25$  miles) of pipeline is proposed. The existing pipeline, as shown on Topo D, will be upgraded to accommodate anticipated production from the proposed wells. The upgraded pipeline will follow the same route as the existing pipeline.** Pipeline segments will be welded or zaplocked together on disturbed areas in or near the location, whenever possible, and dragged into place.

**E. Location and Type of Water Supply:**

*See MDP for additional details on Location and Type of Water Supply.*

Water for drilling purposes will be obtained from one of the following sources:

- Dalbo Inc.'s underground well located in Ouray, Utah, Sec. 32 T4S R3E, Water User Claim number 43-8496, application number 53617.
- Price Water Pumping Inc. Green River and White River, various sources, Water Right Number 49-1659, application number: a35745.

Water will be hauled to location over the roads marked on Maps A and B.

No water well is to be drilled on this lease.

**F. Source of Construction Materials:**

*See MDP for additional details on Source of Construction Materials.*

**G. Methods of Handling Waste Materials:**

*See MDP for additional details on Methods of Handling Waste Materials.*

Any produced water from the proposed well will be contained in a water tank and will then be hauled by truck to one of the pre-approved disposal sites:

RNI in Sec. 5 T9S R22E

NBU #159 in Sec. 35 T9S R21E

Ace Oilfield in Sec. 2 T6S R20E

MC&MC in Sec. 12 T6S R19E

Pipeline Facility in Sec. 36 T9S R20E

Goat Pasture Evaporation Pond in SW/4 Sec. 16 T10S R22E

Bonanza Evaporation Pond in Sec. 2 T10S R23E

**H. Ancillary Facilities:**

*See MDP for additional details on Ancillary Facilities.*

None are anticipated.

**I. Well Site Layout: (See Location Layout Diagram)**

*See MDP for additional details on Well Site Layout.*

All pits will be fenced according to the following minimum standards:

- Net wire (39-inch) will be used with at least one strand of barbed wire on top of the net wire. Barbed wire is not necessary if pipe or some type of reinforcement rod is attached to the top of the entire fence.
- The net wire shall be no more than two inches above the ground. The barbed wire shall be three inches over the net wire. Total height of the fence shall be at least 42 inches.
- Corner posts shall be cemented and/or braced in such a manner to keep the fence tight at all times.
- Standard steel, wood, or pipe posts shall be used between the corner braces. Maximum distance between any 2 fence posts shall be no greater than 16 feet.
- All wire shall be stretched, by using a stretching device, before it is attached to corner posts.

**J. Plans for Reclamation of the Surface:**

*See MDP for additional details on Plans for Reclamation of the Surface.*

**K.     Surface/Mineral Ownership:**

United States of America  
Bureau of Land Management  
170 South 500 East  
Vernal, UT 84078  
(435)781-4400

**L.     Other Information:**

*See MDP for additional details on Other Information.*

**M. Lessee's or Operators' Representative & Certification:**

Kathy Schneebeck Dulnoan  
Regulatory Analyst  
Kerr-McGee Oil & Gas Onshore LP  
PO Box 173779  
Denver, CO 80217-3779  
(720) 929-6007

Tommy Thompson  
General Manager, Drilling  
Kerr-McGee Oil & Gas Onshore LP  
PO Box 173779  
Denver, CO 80217-3779  
(720) 929-6724


Certification: All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, Onshore Oil and Gas Orders, the approved Plan of Operations, and any applicable Notice to Lessees.

The Operator will be fully responsible for the actions of its subcontractors. A complete copy of the approved "Application for Permit to Drill" will be furnished to the field representative(s) to ensure compliance and shall be on location during all construction and drilling operations.

Kerr-McGee Oil & Gas Onshore LP is considered to be the operator of the subject well. Kerr-McGee Oil & Gas Onshore LP agrees to be responsible under terms and conditions of the lease for the operations conducted upon leased lands.

Bond coverage pursuant to 43 CFR 3104 for lease activities is being provided by Bureau of Land Management Nationwide Bond WYB000291.

I hereby certify that I, or persons under my supervision, have inspected the proposed drill site and access route, that I am familiar with the conditions that currently exist; that I have full knowledge of the State and Federal laws applicable to this operation; that the statements made in this plan are, to the best of my knowledge, true and correct; and the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

  
Kathy Schneebeck Dulnoan

September 10, 2009  
Date



## Kerr-McGee Oil & Gas Onshore LP

1099 18th Street, Suite 1800  
Denver, CO 80202-1918  
P.O. Box 173779  
Denver, CO 80217-3779  
720-929-6000

April 22, 2009

Mrs. Diana Mason  
Division of Oil, Gas and Mining  
P.O. Box 145801  
Salt Lake City, UT 84114-6100

Re: Directional Drilling R649-3-11  
NBU 1022-9B4CS  
T10S-R22E  
Section 9: NWNE  
Surface: 228' FNL, 2643' FWL  
Bottom Hole: 1100' FNL, 1956' FEL  
Uintah County, Utah

Dear Mrs. Mason:

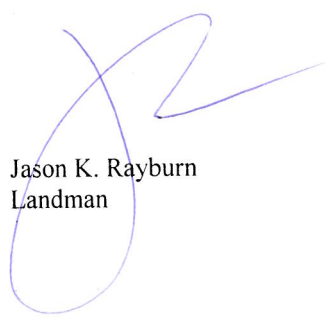
Pursuant to the filing of Kerr-McGee Oil & Gas Onshore LP's (Kerr-McGee) Application for Permit to Drill regarding the above referenced well, we are hereby submitting this letter in accordance with Oil & Gas Conservation Rule R649-3-11 pertaining to the Exception to Location and Siting of Wells.

- Kerr-McGee's NBU 1022-9B4CS located within the Natural Buttes Unit area.
- Kerr-McGee is permitting this well as a directional well in order to minimize surface disturbance. Locating the well at the surface location and directionally drilling from this location, Kerr-McGee will be able to utilize the existing road and pipelines in the area.
- Furthermore, Kerr-McGee certifies that it is the sole working interest owner within 460 feet of the entire directional well bore.

Therefore, based on the above stated information Kerr-McGee Oil & Gas Onshore LP requests the permit be granted pursuant to R649-3-11.

Sincerely,

KERR-MCGEE OIL & GAS ONSHORE LP



Jason K. Rayburn  
Landman

CLASS I REVIEW OF KERR-MCGEE OIL AND GAS  
ONSHORE LP'S 55 PROPOSED WELL LOCATIONS  
IN TOWNSHIP 10S, RANGE 22E,  
SECTIONS 4, 7, 8, 9, 10, 18 AND 20,  
UINTAH COUNTY, UTAH

By:

Patricia Stavish

Prepared For:  
Bureau of Land Management  
Vernal Field Office  
and  
State of Utah  
School & Institutional Trust Lands Administration

Prepared Under Contract With:

Kerr-McGee Oil and Gas Onshore LP  
1368 South 1200 East  
Vernal, Utah 84078

Prepared By:

Montgomery Archaeological Consultants, Inc.  
P.O. Box 219  
Moab, Utah 84532

MOAC Report No. 08-321

February 20, 2009

United States Department of Interior (FLPMA)  
Permit No. 08-UT-60122

Public Lands Policy Coordination Office  
Archaeological Survey Permit No. 117



**IPC #08-290**

## **Paleontological Reconnaissance Survey Report**

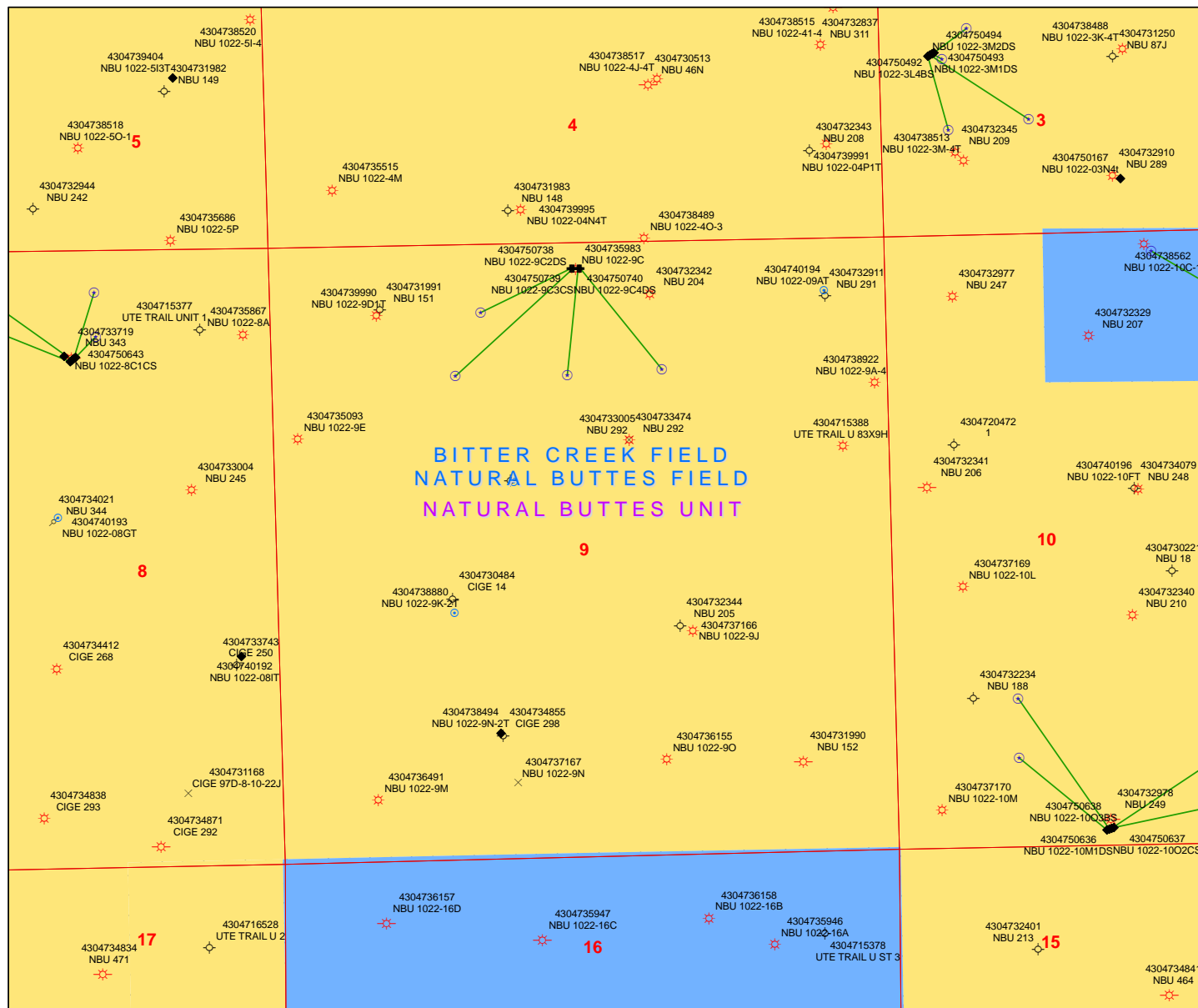
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**Survey of Kerr McGee's Proposed Directional Pads, Multi Wells,  
Access Roads and Pipelines for "NBU #1022-9C, 9B4CS, 9C4DS,  
9C3CS & 9C2DS" & "NBU #231, #1022-10C1BS, 10B1BS,  
10B4BS & 10A4BS" (Sec. 4, 9 & 10, T 10 S, R 22 E)**

Archy Bench  
Topographic Quadrangle  
Uintah County, Utah

December 2, 2008

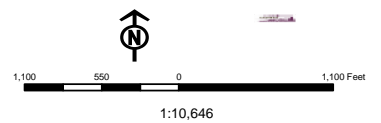
Prepared by Stephen D. Sandau  
Paleontologist for  
Intermountain Paleo-Consulting  
P. O. Box 1125  
Vernal, Utah 84078



**API Number: 4304750737**  
**Well Name: NBU 1022-9B4CS**  
**Township 10.0 S Range 22.0 E Section 9**  
**Meridian: SLBM**  
Operator: KERR-MCGEE OIL & GAS ONSHORE, L.P.

Map Prepared:  
Map Produced by Diana Mason

- |               |                           |
|---------------|---------------------------|
| <b>Units</b>  | <b>Wells Query Events</b> |
| <b>STATUS</b> | <b>GIS_STAT_TYPE</b>      |
| ACTIVE        | <Null>                    |
| EXPLORATORY   | APD                       |
| GAS STORAGE   | DRL                       |
| NF PP OIL     | GI                        |
| NF SECONDARY  | GS                        |
| PI OIL        | LA                        |
| PP GAS        | NEW                       |
| PP GEOTHERM   | OPS                       |
| PP OIL        | PA                        |
| SECONDARY     | PGW                       |
| TERMINATED    | POW                       |
| <b>Fields</b> | RET                       |
| ACTIVE        | SGW                       |
| COMBINED      | SOW                       |
| Sections      | TA                        |
|               | TW                        |
|               | WD                        |
|               | WI                        |
|               | WS                        |



# United States Department of the Interior

## BUREAU OF LAND MANAGEMENT

Utah State Office  
P.O. Box 45155  
Salt Lake City, Utah 84145-0155

### IN REPLY REFER TO:

3160  
(UT-922)

September 18, 2009

### Memorandum

To: Assistant District Manager Minerals, Vernal District

From: Michael Coulthard, Petroleum Engineer

Subject: 2009 Plan of Development Natural Buttes Unit Uintah  
County, Utah.

Pursuant to email between Diana Whitney, Division of Oil, Gas and Mining, and Mickey Coulthard, Utah State Office, Bureau of Land Management, the following wells are planned for calendar year 2009 within the Natural Buttes Unit, Uintah County, Utah.

API #	WELL NAME	LOCATION
(Proposed PZ WASATCH-MESA VERDE)		
43-047-50731	NBU 921-7F	Sec 07 T09S R21E 2079 FNL 2869 FWL
43-047-50732	NBU 921-7L	Sec 07 T09S R21E 1948 FSL 1196 FWL
43-047-50733	NBU 921-8D	Sec 08 T09S R21E 0469 FNL 0652 FWL
43-047-50734	NBU 921-8N	Sec 08 T09S R21E 0705 FSL 2033 FWL
43-047-50735	NBU 921-7D	Sec 07 T09S R21E 0463 FNL 0180 FWL
43-047-50736	NBU 921-8C	Sec 08 T09S R21E 0483 FNL 1729 FWL
43-047-50737	NBU 1022-9B4CS	Sec 09 T10S R22E 0228 FNL 2643 FWL
	BHL	Sec 09 T10S R22E 1100 FNL 1956 FEL
43-047-50738	NBU 1022-9C2DS	Sec 09 T10S R22E 0224 FNL 2563 FWL
	BHL	Sec 09 T10S R22E 0591 FNL 1782 FWL
43-047-50739	NBU 1022-9C3CS	Sec 09 T10S R22E 0225 FNL 2583 FWL
	BHL	Sec 09 T10S R22E 1131 FNL 1548 FWL
43-047-50740	NBU 1022-9C4DS	Sec 09 T10S R22E 0227 FNL 2623 FWL
	BHL	Sec 09 T10S R22E 1141 FNL 2505 FWL
43-047-50751	NBU 920-21G	Sec 21 T09S R20E 1998 FNL 2319 FEL

API #	WELL NAME	LOCATION
(Proposed PZ WASATCH-MESA VERDE)		
43-047-50752	NBU 1022-8L3CS	Sec 08 T10S R22E 1761 FSL 0309 FWL
	BHL	Sec 08 T10S R22E 1330 FSL 0005 FWL
43-047-50753	NBU 1022-8M3DS	Sec 08 T10S R22E 1765 FSL 0329 FWL
	BHL	Sec 08 T10S R22E 0245 FSL 0350 FWL
43-047-50754	NBU 1022-8N1DS	Sec 08 T10S R22E 1772 FSL 0368 FWL
	BHL	Sec 08 T10S R22E 0940 FSL 2635 FWL
43-047-50755	NBU 1022-8N2DS	Sec 08 T10S R22E 1769 FSL 0348 FWL
	BHL	Sec 08 T10S R22E 0735 FSL 1700 FWL
43-047-50756	NBU 1022-35I1CS	Sec 35 T10S R22E 2335 FSL 0650 FEL
	BHL	Sec 35 T10S R22E 2170 FSL 0460 FEL

This office has no objection to permitting the wells at this time.

/s/ Michael L. Coulthard

bcc: File – Natural Buttes Unit  
Division of Oil Gas and Mining  
Central Files  
Agr. Sec. Chron  
Fluid Chron

MCoulthard:mc:9-18-09

# WORKSHEET

## APPLICATION FOR PERMIT TO DRILL

**APD RECEIVED:** 9/11/2009

**API NO. ASSIGNED:** 43047507370000

**WELL NAME:** NBU 1022-9B4CS

**OPERATOR:** KERR-MCGEE OIL & GAS ONSHORE, L.P. (N2995)

**PHONE NUMBER:** 720 929-6156

**CONTACT:** Danielle Piernot

**PROPOSED LOCATION:** NENW 9 100S 220E

**Permit Tech Review:** ☒

**SURFACE:** 0228 FNL 2643 FWL

**Engineering Review:** ☒

**BOTTOM:** 1100 FNL 1956 FEL

**Geology Review:** ☒

**COUNTY:** UINTAH

**LATITUDE:** 39.97003

**LONGITUDE:** -109.44414

**UTM SURF EASTINGS:** 632873.00

**NORTHINGS:** 4425380.00

**FIELD NAME:** NATURAL BUTTES

**LEASE TYPE:** 1 - Federal

**LEASE NUMBER:** UTU 01196D

**PROPOSED PRODUCING FORMATION(S):** WASATCH-MESA VERDE

**SURFACE OWNER:** 1 - Federal

**COALBED METHANE:** NO

### RECEIVED AND/OR REVIEWED:

☒ **PLAT**

☒ **Bond:** FEDERAL - WYB000291

☐ **Potash**

☒ **Oil Shale 190-5**

☐ **Oil Shale 190-3**

☐ **Oil Shale 190-13**

☒ **Water Permit:** Permit #43-8496

☐ **RDCC Review:**

☐ **Fee Surface Agreement**

☒ **Intent to Commingle**

**Commingle Approved**

### LOCATION AND SITING:

☐ **R649-2-3.**

**Unit:** NATURAL BUTTES

☐ **R649-3-2. General**

☐ **R649-3-3. Exception**

☒ **Drilling Unit**

**Board Cause No:** Cause 173-14

**Effective Date:** 12/2/1999

**Siting:** 460' fr u bdry & uncomm. tract

☒ **R649-3-11. Directional Drill**

**Comments:** Presite Completed

**Stipulations:**  
3 - Commingle - ddoucet  
4 - Federal Approval - dmason  
15 - Directional - dmason  
17 - Oil Shale 190-5(b) - dmason



GARY R. HERBERT  
*Governor*

GREGORY S. BELL  
*Lieutenant Governor*

## State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER  
*Executive Director*

Division of Oil, Gas and Mining

JOHN R. BAZA  
*Division Director*

### Permit To Drill

\*\*\*\*\*

**Well Name:** NBU 1022-9B4CS  
**API Well Number:** 43047507370000  
**Lease Number:** UTU 01196D  
**Surface Owner:** FEDERAL  
**Approval Date:** 9/29/2009

**Issued to:**

KERR-MCGEE OIL & GAS ONSHORE, L.P., P.O. Box 173779, Denver, CO 80217

**Authority:**

Pursuant to Utah Code Ann. §40-6-1 et seq., and Utah Administrative Code R649-3-1 et seq., the Utah Division of Oil, Gas and Mining issues conditions of approval, and permit to drill the listed well. This permit is issued in accordance with the requirements of Cause 173-14. The expected producing formation or pool is the WASATCH-MESA VERDE Formation(s), completion into any other zones will require filing a Sundry Notice (Form 9). Completion and commingling of more than one pool will require approval in accordance with R649-3-22.

**Duration:**

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date

**Commingling:**

In accordance with Board Cause No. 173-14, commingling of the production from the Wasatch formation and the Mesaverde formation in this well is allowed.

**General:**

Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

**Conditions of Approval:**

State approval of this well does not supercede the required federal approval, which must be obtained prior to drilling.

In accordance with Utah Admin. R.649-3-11, Directional Drilling, the operator shall submit a complete angular deviation and directional survey report to the Division within 30 days following completion of the well.

In accordance with the Order in Cause No. 190-5(b) dated October 28, 1982, the operator shall comply with the requirements of Rules R649-3-31 and R649-3-27 pertaining to Designated Oil Shale Areas. Additionally, the operators shall ensure that the surface and or production casing is properly cemented over the entire oil shale section as defined by Rule R649-3-31. The Operator shall report the actual depth the oil shale is encountered to the division.

**Notification Requirements:**

The operator is required to notify the Division of Oil, Gas and Mining of the following actions during drilling of this well:

- Within 24 hours following the spudding of the well – contact Carol Daniels at 801-538-5284 (please leave a voicemail message if not available)

OR

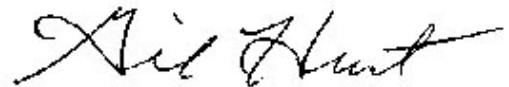
submit an electronic sundry notice (pre-registration required) via the Utah Oil & Gas website at <https://oilgas.ogm.utah.gov>

**Reporting Requirements:**

All reports, forms and submittals as required by the Utah Oil and Gas Conservation General Rules will be promptly filed with the Division of Oil, Gas and Mining, including but not limited to:

- Entity Action Form (Form 6) – due within 5 days of spudding the well
- Monthly Status Report (Form 9) – due by 5th day of the following calendar month
- Requests to Change Plans (Form 9) – due prior to implementation
- Written Notice of Emergency Changes (Form 9) – due within 5 days
- Notice of Operations Suspension or Resumption (Form 9) – due prior to implementation
- Report of Water Encountered (Form 7) – due within 30 days after completion
- Well Completion Report (Form 8) – due within 30 days after completion or plugging

**Approved By:**

A handwritten signature in black ink, appearing to read "Gil Hunt", with a stylized, flowing script.

Gil Hunt  
Associate Director, Oil & Gas

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 01196D
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 1022-9B4CS
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0228 FNL 2643 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NENW Section: 09 Township: 10.0S Range: 22.0E Meridian: S		<b>9. API NUMBER:</b> 43047507370000
<b>PHONE NUMBER:</b> 720 929-6007 Ext		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>COUNTY:</b> UTAH		<b>STATE:</b> UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: 9/30/2010  <input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:  <input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:  <input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	<input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input checked="" type="checkbox"/> <b>APD EXTENSION</b> OTHER: <input style="width: 100px;" type="text"/>

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.  
 Kerr-McGee Oil & Gas Onshore, L.P. (Kerr-McGee) respectfully requests an extension to this APD for the maximum time allowed. Please contact the undersigned with any questions and/or comments. Thank you.

Approved by the  
Utah Division of  
Oil, Gas and Mining

Date: October 06, 2010

By:

<b>NAME (PLEASE PRINT)</b> Danielle Piernot	<b>PHONE NUMBER</b> 720 929-6156	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A		<b>DATE</b> 9/30/2010





## The Utah Division of Oil, Gas, and Mining

- State of Utah  
- Department of Natural Resources

Electronic Permitting System - Sundry Notices

### Request for Permit Extension Validation Well Number 43047507370000

**API:** 43047507370000

**Well Name:** NBU 1022-9B4CS

**Location:** 0228 FNL 2643 FWL QTR NENW SEC 09 TWP 100S RNG 220E MER S

**Company Permit Issued to:** KERR-MCGEE OIL & GAS ONSHORE, L.P.

**Date Original Permit Issued:** 9/29/2009

The undersigned as owner with legal rights to drill on the property as permitted above, hereby verifies that the information as submitted in the previously approved application to drill, remains valid and does not require revision. Following is a checklist of some items related to the application, which should be verified.

- If located on private land, has the ownership changed, if so, has the surface agreement been updated? ☐ Yes ☒ No
- Have any wells been drilled in the vicinity of the proposed well which would affect the spacing or siting requirements for this location? ☐ Yes ☒ No
- Has there been any unit or other agreements put in place that could affect the permitting or operation of this proposed well? ☐ Yes ☒ No
- Have there been any changes to the access route including ownership, or rightof- way, which could affect the proposed location? ☐ Yes ☒ No
- Has the approved source of water for drilling changed? ☐ Yes ☒ No
- Have there been any physical changes to the surface location or access route which will require a change in plans from what was discussed at the onsite evaluation? ☐ Yes ☒ No
- Is bonding still in place, which covers this proposed well? ☒ Yes ☐ No

**Approved by the  
Utah Division of  
Oil, Gas and Mining**

**Signature:** Danielle Piernot

**Date:** 9/30/2010

**Title:** Regulatory Analyst **Representing:** KERR-MCGEE OIL & GAS ONSHORE, L.P.

**Date:** October 06, 2010

**By:** 

**RECEIVED** September 30, 2010

RECEIVED

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
OMB No. 1004-0136  
Expires July 31, 2010

SEP 18 2009

nc

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. UTU01196D
1b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input checked="" type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name
2. Name of Operator KERR MCGEE OIL & GAS ONSHORE		7. If Unit or CA Agreement, Name and No. UTU63047A
Contact: DANIELLE E PIERNOT Email: Danielle.Piernot@anadarko.com		8. Lease Name and Well No. NBU 1022-9B4CS
3a. Address 1368 SOUTH 1200 EAST VERNAL, UT 84078	3b. Phone No. (include area code) Ph: 720-929-6156 Fx: 720-929-7156	9. API Well No. 43-047-50737
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface NENW 228FNL 2643FWL 39.97010 N Lat, 109.44482 W Lon At proposed prod. zone NWNE 1100FNL 1956FEL 39.96773 N Lat, 109.44235 W Lon		10. Field and Pool, or Exploratory NATURAL BUTTES
14. Distance in miles and direction from nearest town or post office* APPROXIMATELY 25 MILES SOUTHEAST OF OURAY, UTAH		11. Sec., T., R., M., or Blk. and Survey or Area Sec 9 T10S R22E Mer SLB SME: BLM
15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 1100 FEET	16. No. of Acres in Lease 320.00	12. County or Parish UINTAH
17. Spacing Unit dedicated to this well	13. State UT	
18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft. APPROXIMATELY 835 FEET	19. Proposed Depth 9127 MD 8900 TVD	20. BLM/BIA Bond No. on file WYB000291
21. Elevations (Show whether DF, KB, RT, GL, etc.) 5191 GL	22. Approximate date work will start 09/28/2009	23. Estimated duration 60-90 DAYS

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form:

- Well plat certified by a registered surveyor.
- A Drilling Plan.
- A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).
- Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
- Operator certification
- Such other site specific information and/or plans as may be required by the authorized officer.

25. Signature (Electronic Submission)	Name (Printed/Typed) DANIELLE E PIERNOT Ph: 720-929-6156	Date 09/11/2009
Title REGULATORY ANALYST		
Approved by (Signature) 	Name (Printed/Typed) Jerry Kenczka	Date JUN 09 2011
Title Assistant Field Manager Lands & Mineral Resources	Office VERNAL FIELD OFFICE	

Application approval does not warrant or certify the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.  
Conditions of approval, if any, are attached.

CONDITIONS OF APPROVAL ATTACHED

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Additional Operator Remarks (see next page)

Electronic Submission #74201 verified by the BLM Well Information System  
For KERR MCGEE OIL & GAS ONSHORE L, sent to the Vernal  
Committed to AFMSS for processing by ROBIN R. HANSEN on 09/14/2009 (09RRR00004E)

NOTICE OF APPROVAL

JUN 15 2011

UDOGM

\*\* BLM REVISED \*\* BLM REVISED \*\* BLM REVISED \*\* BLM REVISED \*\* BLM REVISED \*\*

09GXJ3392AE

NBS 2-17-2010

DIV. OF OIL, GAS & MINING

RECEIVED



UNITED STATES DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
VERNAL FIELD OFFICE

170 South 500 East

VERNAL, UT 84078

(435) 781-4400



**CONDITIONS OF APPROVAL FOR APPLICATION FOR PERMIT TO DRILL**

Company: Kerr McGee Oil & Gas Onshore  
Well No: NBU 1022-9B4CS  
API No: 43-047-50737

Location: NENW, Sec. 9, T10S, R22E  
Lease No: UTU-01196D  
Agreement: Natural Buttes Unit

**OFFICE NUMBER: (435) 781-4400**

**OFFICE FAX NUMBER: (435) 781-3420**

**A COPY OF THESE CONDITIONS SHALL BE FURNISHED TO YOUR  
FIELD REPRESENTATIVE TO INSURE COMPLIANCE**

All lease and/or unit operations are to be conducted in such a manner that full compliance is made with the applicable laws, regulations (43 CFR Part 3160), and this approved Application for Permit to Drill including Surface and Downhole Conditions of Approval. The operator is considered fully responsible for the actions of his subcontractors. A copy of the approved APD must be on location during construction, drilling, and completion operations. **This permit was processed using a 390 CX tied to NEPA approved 02/05/2007. Therefore, this permit is approved for a two (2) year period OR until lease expiration OR the well must be spud by 02/05/2012 (5 years from the NEPA approval date), whichever occurs first. An additional extension, up to two (2) years, may be applied for by sundry notice prior to expiration.**

**NOTIFICATION REQUIREMENTS**

Location Construction (Notify Environmental Scientist)	- Forty-Eight (48) hours prior to construction of location and access roads.
Location Completion (Notify Environmental Scientist)	- Prior to moving on the drilling rig.
Spud Notice (Notify Petroleum Engineer)	- Twenty-Four (24) hours prior to spudding the well.
Casing String & Cementing (Notify Supv. Petroleum Tech.)	- Twenty-Four (24) hours prior to running casing and cementing all casing strings to: <a href="mailto:ut_vn_opreport@blm.gov">ut_vn_opreport@blm.gov</a> .
BOP & Related Equipment Tests (Notify Supv. Petroleum Tech.)	- Twenty-Four (24) hours prior to initiating pressure tests.
First Production Notice (Notify Petroleum Engineer)	- Within Five (5) business days after new well begins or production resumes after well has been off production for more than ninety (90) days.

***SURFACE USE PROGRAM  
CONDITIONS OF APPROVAL (COAs)***

- All new and replacement internal combustion gas field engines of less than or equal to 300 design-rated horsepower must not emit more than 2 gms of NO<sub>x</sub> per horsepower-hour. This requirement does not apply to gas field engines of less than or equal to 40 design-rated horsepower.
- All and replacement internal combustion gas field engines of greater than 300 design rated horsepower must not emit more than 1.0 gms of NO<sub>x</sub> per horsepower-hour.
- If there is an active Gilsonite mining operation within 2 miles of the well location, operator shall notify the Gilsonite operator at least 48 hours prior to any blasting during construction.
- If paleontological materials are uncovered during construction, the operator is to immediately stop work and contact the Authorized Officer (AO). A determination will be made by the AO as to what mitigation may be necessary for the discovered paleontologic material before construction can continue.
- Kerr McGee will adhere to all applicant committed conservation measures and conservation recommendations that are stated in the USFWS's "Final Biological Opinion for the Anadarko Petroleum Corporation Natural Buttes Unit and Bonanza Area Natural Gas Development Project.
- The operator will follow the Green River District Reclamation Guidelines for Reclamation.
- The operator will control noxious weeds along the well pad, access road, and the pipeline route by spraying or mechanical removal. On BLM administered land, a Pesticides Use Proposal (PUP) will be submitted and approved prior to the application of herbicides or pesticides or possibly hazardous chemicals.

**DOWNHOLE PROGRAM  
CONDITIONS OF APPROVAL (COAs)**

**SITE SPECIFIC DOWNHOLE COAs:**

- Gamma Ray Log shall be run from Total Depth to Surface.

**Variances Granted**

**Air Drilling**

- Properly lubricated and maintained rotating head, variance granted to use a properly maintained and lubricated diverter bowl in place of a rotating head.
- Blooie line discharge 100' from the well bore, variance granted for blooie line discharge to be 45' from the well bore.
- Compressors located in the opposite direction from the blooie line a minimum of 100' from the well bore. Variance granted for two truck/trailer mounted air compressors located within 40 feet from the well bore and 60' from the blooie line.
- Mud Material Requirements. In lieu of mud products on location, Kerr McGee will fill the reserve pit with water for kill fluid.
- Automatic igniter. Variance granted for igniter due to there being no productive formations while drilling with air.
- FIT test. Variance granted due to well know geology and problems that can occur with FIT test.

**All provisions outlined in Onshore Oil & Gas Order #2 Drilling Operations shall be strictly adhered to.** The following items are emphasized:

**DRILLING/COMPLETION/PRODUCING OPERATING STANDARDS**

- The spud date and time shall be reported orally to Vernal Field Office within 24 hours of spudding.
- Notify Vernal Field Office Supervisory Petroleum Engineering Technician at least 24 hours in advance of casing cementing operations and BOPE & casing pressure tests.
- All requirements listed in Onshore Order #2 III. E. Special Drilling Operations are applicable for air drilling of surface hole.
- Blowout prevention equipment (BOPE) shall remain in use until the well is completed or abandoned. Closing unit controls shall remain unobstructed and readily accessible at all times. Choke manifolds shall be located outside of the rig substructure.
- All BOPE components shall be inspected daily and those inspections shall be recorded in the daily drilling report. Components shall be operated and tested as required by Onshore Oil & Gas Order No. 2 to insure good mechanical working order. All BOPE pressure tests shall be performed by a test pump with a chart recorder and **NOT** by the rig pumps. Test shall be reported in the driller's log.

- BOP drills shall be initially conducted by each drilling crew within 24 hours of drilling out from under the surface casing and weekly thereafter as specified in Onshore Oil & Gas Order No. 2.
- Casing pressure tests are required before drilling out from under all casing strings set and cemented in place.
- No aggressive/fresh hard-banded drill pipe shall be used within casing.
- **Cement baskets shall not be run on surface casing.**
- The operator must report all shows of water or water-bearing sands to the BLM. If flowing water is encountered it must be sampled, analyzed, and a copy of the analyses submitted to the BLM Vernal Field Office.
- The operator must report encounters of all non oil & gas mineral resources (such as Gilsonite, tar sands, oil shale, trona, etc.) to the Vernal Field Office, in writing, within 5 working days of each encounter. Each report shall include the well name/number, well location, date and depth (from KB or GL) of encounter, vertical footage of the encounter and, the name of the person making the report (along with a telephone number) should the BLM need to obtain additional information.
- A complete set of angular deviation and directional surveys of a directional well will be submitted to the Vernal BLM office engineer within 30 days of the completion of the well.
- While actively drilling, chronologic drilling progress reports shall be filed directly with the BLM, Vernal Field Office on a weekly basis in sundry, letter format or e-mail to the Petroleum Engineers until the well is completed.
- A cement bond log (CBL) will be run from the production casing shoe to the top of cement and shall be utilized to determine the bond quality for the production casing. Submit a field copy of the CBL to this office.
- **Please submit an electronic copy of all other logs run on this well in LAS format to UT\_VN\_Welllogs@BLM.gov. This submission will supersede the requirement for submittal of paper logs to the BLM.**
- There shall be no deviation from the proposed drilling, completion, and/or workover program as approved. Safe drilling and operating practices must be observed. Any changes in operation must have prior approval from the BLM Vernal Field Office.

## OPERATING REQUIREMENT REMINDERS:

- All wells, whether drilling, producing, suspended, or abandoned, shall be identified in accordance with 43 CFR 3162.6. There shall be a sign or marker with the name of the operator, lease serial number, well number, and surveyed description of the well.
- For information regarding production reporting, contact the Office of Natural Resources Revenue (ONRR) at [www.ONRR.gov](http://www.ONRR.gov).
- Should the well be successfully completed for production, the BLM Vernal Field office must be notified when it is placed in a producing status. Such notification will be by written communication and must be received in this office by not later than the fifth business day following the date on which the well is placed on production. The notification shall provide, as a minimum, the following informational items:
  - Operator name, address, and telephone number.
  - Well name and number.
  - Well location (¼¼, Sec., Twn, Rng, and P.M.).
  - Date well was placed in a producing status (date of first production for which royalty will be paid).
  - The nature of the well's production, (i.e., crude oil, or crude oil and casing head gas, or natural gas and entrained liquid hydrocarbons).
  - The Federal or Indian lease prefix and number on which the well is located; otherwise the non-Federal or non-Indian land category, i.e., State or private.
  - Unit agreement and/or participating area name and number, if applicable.
  - Communitization agreement number, if applicable.
- Any venting or flaring of gas shall be done in accordance with Notice to Lessees (NTL) 4A and needs prior approval from the BLM Vernal Field Office.
- All undesirable events (fires, accidents, blowouts, spills, discharges) as specified in NTL 3A will be reported to the BLM, Vernal Field Office. Major events, as defined in NTL3A, shall be reported verbally within 24 hours, followed by a written report within 15 days. "Other than Major Events" will be reported in writing within 15 days. "Minor Events" will be reported on the Monthly Report of Operations and Production.
- Whether the well is completed as a dry hole or as a producer, "Well Completion and Recompletion Report and Log" (BLM Form 3160-4) shall be submitted not later than 30 days after completion of the well or after completion of operations being performed, in accordance with 43 CFR 3162.4-1. Two copies of all logs run, core descriptions, and all other surveys or data obtained and compiled during the drilling, workover, and/or completion operations, shall be filed on BLM Form 3160-4. Submit with the well completion report a geologic report including, at a minimum, formation tops, and a summary and conclusions. Also include deviation surveys, sample descriptions, strip logs,

core data, drill stem test data, and results of production tests if performed. Samples (cuttings, fluid, and/or gas) shall be submitted only when requested by the BLM, Vernal Field Office.

- All off-lease storage, off-lease measurement, or commingling on-lease or off-lease, shall have prior written approval from the BLM Vernal Field Office.
- Oil and gas meters shall be calibrated in place prior to any deliveries. The BLM Vernal Field Office Petroleum Engineers will be provided with a date and time for the initial meter calibration and all future meter proving schedules. A copy of the meter calibration reports shall be submitted to the BLM Vernal Field Office. All measurement facilities will conform to the API standards for liquid hydrocarbons and the AGA standards for natural gas measurement. All measurement points shall be identified as the point of sale or allocation for royalty purposes.
- A schematic facilities diagram as required by Onshore Oil & Gas Order No. 3 shall be submitted to the BLM Vernal Field Office within 30 days of installation or first production, whichever occurs first. All site security regulations as specified in Onshore Oil & Gas Order No. 3 shall be adhered to. All product lines entering and leaving hydrocarbon storage tanks will be effectively sealed in accordance with Onshore Oil & Gas Order No. 3.
- Any additional construction, reconstruction, or alterations of facilities, including roads, gathering lines, batteries, etc., which will result in the disturbance of new ground, shall require the filing of a suitable plan and need prior approval of the BLM Vernal Field Office. Emergency approval may be obtained orally, but such approval does not waive the written report requirement.
- No location shall be constructed or moved, no well shall be plugged, and no drilling or workover equipment shall be removed from a well to be placed in a suspended status without prior approval of the BLM Vernal Field Office. If operations are to be suspended for more than 30 days, prior approval of the BLM Vernal Field Office shall be obtained and notification given before resumption of operations.
- Pursuant to Onshore Oil & Gas Order No. 7, this is authorization for pit disposal of water produced from this well for a period of 90 days from the date of initial production. A permanent disposal method must be approved by this office and in operation prior to the end of this 90-day period. In order to meet this deadline, an application for the proposed permanent disposal method shall be submitted along with any necessary water analyses, as soon as possible, but no later than 45 days after the date of first production. Any method of disposal which has not been approved prior to the end of the authorized 90-day period will be considered as an Incident of Noncompliance and will be grounds for issuing a shut-in order until an acceptable manner for disposing of said water is provided and approved by this office.
- Unless the plugging is to take place immediately upon receipt of oral approval, the Field Office Petroleum Engineers must be notified at least 24 hours in advance of the plugging of the well, in order that a representative may witness plugging operations. If a well is suspended or abandoned, all pits must be fenced immediately until they are backfilled. The "Subsequent Report of Abandonment" (Form BLM 3160-5) must be submitted within 30 days after the actual plugging of the well bore, showing location of plugs, amount of cement in each, and amount of casing left in hole, and the current status of the surface restoration.



<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>			
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 01196D			
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>			
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES			
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 1022-9B4CS			
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0228 FNL 2643 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NENW Section: 09 Township: 10.0S Range: 22.0E Meridian: S		<b>9. API NUMBER:</b> 43047507370000			
<b>PHONE NUMBER:</b> 720 929-6515 Ext		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES			
<b>COUNTY:</b> UINTAH		<b>STATE:</b> UTAH			
<b>11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA</b>					
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>				
<input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: 8/22/2011  <input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:  <input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:  <input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	<table style="width: 100%; border: none;"> <tr> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> ACIDIZE  <input type="checkbox"/> CHANGE TO PREVIOUS PLANS  <input type="checkbox"/> CHANGE WELL STATUS  <input type="checkbox"/> DEEPEN  <input type="checkbox"/> OPERATOR CHANGE  <input type="checkbox"/> PRODUCTION START OR RESUME  <input type="checkbox"/> REPERFORATE CURRENT FORMATION  <input type="checkbox"/> TUBING REPAIR  <input type="checkbox"/> WATER SHUTOFF  <input type="checkbox"/> WILDCAT WELL DETERMINATION         </td> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> ALTER CASING  <input type="checkbox"/> CHANGE TUBING  <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS  <input type="checkbox"/> FRACTURE TREAT  <input type="checkbox"/> PLUG AND ABANDON  <input type="checkbox"/> RECLAMATION OF WELL SITE  <input type="checkbox"/> SIDETRACK TO REPAIR WELL  <input type="checkbox"/> VENT OR FLARE  <input type="checkbox"/> SI TA STATUS EXTENSION  <input type="checkbox"/> OTHER         </td> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> CASING REPAIR  <input type="checkbox"/> CHANGE WELL NAME  <input type="checkbox"/> CONVERT WELL TYPE  <input type="checkbox"/> NEW CONSTRUCTION  <input type="checkbox"/> PLUG BACK  <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION  <input type="checkbox"/> TEMPORARY ABANDON  <input type="checkbox"/> WATER DISPOSAL  <input checked="" type="checkbox"/> APD EXTENSION          OTHER: <span style="border: 1px solid black; display: inline-block; width: 100px; height: 1.2em; vertical-align: middle;"></span> </td> </tr> </table>		<input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input checked="" type="checkbox"/> APD EXTENSION OTHER: <span style="border: 1px solid black; display: inline-block; width: 100px; height: 1.2em; vertical-align: middle;"></span>
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<b>12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.</b>  Kerr-McGee Oil & Gas Onshore, L.P. (Kerr-McGee) respectfully requests an extension to this APD for the maximum time allowed. Please contact the undersigned with any questions and/or comments. Thank you.					
<b>Approved by the Utah Division of Oil, Gas and Mining</b>  <b>Date:</b> 08/22/2011 <b>By:</b>					
<b>NAME (PLEASE PRINT)</b> Andy Lytle		<b>PHONE NUMBER</b> 720 929-6100			
<b>SIGNATURE</b> N/A		<b>TITLE</b> Regulatory Analyst			
<b>DATE</b> 8/22/2011					



## The Utah Division of Oil, Gas, and Mining

- State of Utah  
- Department of Natural Resources

Electronic Permitting System - Sundry Notices

### Request for Permit Extension Validation Well Number 43047507370000

**API:** 43047507370000

**Well Name:** NBU 1022-9B4CS

**Location:** 0228 FNL 2643 FWL QTR NENW SEC 09 TWP 100S RNG 220E MER S

**Company Permit Issued to:** KERR-MCGEE OIL & GAS ONSHORE, L.P.

**Date Original Permit Issued:** 9/29/2009

The undersigned as owner with legal rights to drill on the property as permitted above, hereby verifies that the information as submitted in the previously approved application to drill, remains valid and does not require revision. Following is a checklist of some items related to the application, which should be verified.

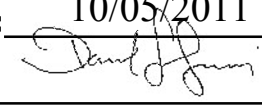
- If located on private land, has the ownership changed, if so, has the surface agreement been updated? ☐ Yes ☒ No
- Have any wells been drilled in the vicinity of the proposed well which would affect the spacing or siting requirements for this location? ☐ Yes ☒ No
- Has there been any unit or other agreements put in place that could affect the permitting or operation of this proposed well? ☐ Yes ☒ No
- Have there been any changes to the access route including ownership, or rightof- way, which could affect the proposed location? ☐ Yes ☒ No
- Has the approved source of water for drilling changed? ☐ Yes ☒ No
- Have there been any physical changes to the surface location or access route which will require a change in plans from what was discussed at the onsite evaluation? ☐ Yes ☒ No
- Is bonding still in place, which covers this proposed well? ☒ Yes ☐ No

**Signature:** Andy Lytle

**Date:** 8/22/2011

**Title:** Regulatory Analyst **Representing:** KERR-MCGEE OIL & GAS ONSHORE, L.P.

**RECEIVED** Aug. 22, 2011

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
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<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>  
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 1022-9B4CS
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<b>COUNTY:</b> UINTAH		<b>STATE:</b> UTAH
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<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>	
<input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: 10/4/2011  <input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:  <input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:  <input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	<div style="display: flex; flex-wrap: wrap;"> <div style="width: 33%;"> <input type="checkbox"/> ACIDIZE  <input type="checkbox"/> CHANGE TO PREVIOUS PLANS  <input type="checkbox"/> CHANGE WELL STATUS  <input type="checkbox"/> DEEPEN  <input type="checkbox"/> OPERATOR CHANGE  <input type="checkbox"/> PRODUCTION START OR RESUME  <input type="checkbox"/> REPERFORATE CURRENT FORMATION  <input type="checkbox"/> TUBING REPAIR  <input type="checkbox"/> WATER SHUTOFF  <input type="checkbox"/> WILDCAT WELL DETERMINATION         </div> <div style="width: 33%;"> <input type="checkbox"/> ALTER CASING  <input type="checkbox"/> CHANGE TUBING  <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS  <input type="checkbox"/> FRACTURE TREAT  <input type="checkbox"/> PLUG AND ABANDON  <input type="checkbox"/> RECLAMATION OF WELL SITE  <input type="checkbox"/> SIDETRACK TO REPAIR WELL  <input type="checkbox"/> VENT OR FLARE  <input type="checkbox"/> SI TA STATUS EXTENSION  <input checked="" type="checkbox"/> OTHER         </div> <div style="width: 33%;"> <input type="checkbox"/> CASING REPAIR  <input type="checkbox"/> CHANGE WELL NAME  <input type="checkbox"/> CONVERT WELL TYPE  <input type="checkbox"/> NEW CONSTRUCTION  <input type="checkbox"/> PLUG BACK  <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION  <input type="checkbox"/> TEMPORARY ABANDON  <input type="checkbox"/> WATER DISPOSAL  <input type="checkbox"/> APD EXTENSION         </div> </div>	
<b>12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.</b> Kerr-McGee Oil & Gas Onshore, LP is requesting to refurb the existing pit on this multi-well pad for completion operations. The refurb pit will be relined per the requirements in the COA of the APD. Upon completion of the wells on this pad, Kerr-McGee is also requesting to utilize this pit as an ACTS staging pit to be utilized for other completion operations in the area. The trucks will unload water into these tanks before the water is placed into the refurbished pit. The purpose of the frac tanks is to collect any hydro-carbons that may have been associated with the other completion operations before releasing into the pit. We plan to keep this pit open for 1 year. During this time the surrounding well location completion fluids will be recycled in this pit and utilized for other frac jobs in the surrounding sections. Thank you.		
<b>Accepted by the Utah Division of Oil, Gas and Mining</b>  Date: 10/05/2011 By: 		
<b>NAME (PLEASE PRINT)</b> Danielle Piernot		<b>PHONE NUMBER</b> 720 929-6156
<b>SIGNATURE</b> N/A		<b>TITLE</b> Regulatory Analyst
<b>DATE</b> 9/27/2011		



**The Utah Division of Oil, Gas, and Mining**

- State of Utah
- Department of Natural Resources

**Electronic Permitting System - Sundry Notices**

**Sundry Conditions of Approval Well Number 43047507370000**

**A synthetic liner with a minimum thickness of 30 mils with a felt subliner shall be properly installed and maintained in the pit.**

## BLM - Vernal Field Office - Notification Form

Operator KERR-McGEE OIL & GAS Rig Name/# BUCKET RIG  
Submitted By JAIME SCHARNOWSKE Phone Number 720.929.6304  
Well Name/Number NBU 1022-9B4CS  
Qtr/Qtr NENW Section 9 Township 10S Range 22E  
Lease Serial Number UTU01196D  
API Number 4304750737

Spud Notice – Spud is the initial spudding of the well, not drilling out below a casing string.

Date/Time 02/06/2012 09:00 HRS AM ☐ PM ☐

Casing – Please report time casing run starts, not cementing times.

- ☒ Surface Casing  
☐ Intermediate Casing  
☐ Production Casing  
☐ Liner  
☐ Other

RECEIVED

FEB 02 2012

DIV. OF OIL, GAS & MINING

Date/Time 02/12/2012 08:00 HRS AM ☐ PM ☐

BOPE

- ☐ Initial BOPE test at surface casing point  
☐ BOPE test at intermediate casing point  
☐ 30 day BOPE test  
☐ Other

Date/Time \_\_\_\_\_ AM ☐ PM ☐

Remarks ESTIMATED DATE AND TIME. PLEASE CONTACT KENNY GATHINGS AT

435.828.0986 OR LOVEL YOUNG AT 435.781.7051

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 01196D
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 1022-9B4CS
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0228 FNL 2643 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NENW Section: 09 Township: 10.0S Range: 22.0E Meridian: S		<b>9. API NUMBER:</b> 43047507370000
<b>PHONE NUMBER:</b> 720 929-6514		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>COUNTY:</b> UINTAH		<b>STATE:</b> UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>	
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> ALTER CASING	
<input checked="" type="checkbox"/> SPUD REPORT Date of Spud: 2/6/2012	<input type="checkbox"/> CASING REPAIR	
<input type="checkbox"/> DRILLING REPORT Report Date:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	
	<input type="checkbox"/> CHANGE WELL STATUS	
	<input type="checkbox"/> CHANGE TUBING	
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	
	<input type="checkbox"/> CONVERT WELL TYPE	
	<input type="checkbox"/> DEEPEN	
	<input type="checkbox"/> FRACTURE TREAT	
	<input type="checkbox"/> NEW CONSTRUCTION	
	<input type="checkbox"/> OPERATOR CHANGE	
	<input type="checkbox"/> PLUG AND ABANDON	
	<input type="checkbox"/> PLUG BACK	
	<input type="checkbox"/> PRODUCTION START OR RESUME	
	<input type="checkbox"/> RECLAMATION OF WELL SITE	
	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION	
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	
	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	
	<input type="checkbox"/> TEMPORARY ABANDON	
	<input type="checkbox"/> TUBING REPAIR	
	<input type="checkbox"/> VENT OR FLARE	
	<input type="checkbox"/> WATER DISPOSAL	
	<input type="checkbox"/> WATER SHUTOFF	
	<input type="checkbox"/> SI TA STATUS EXTENSION	
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	
	<input type="checkbox"/> OTHER: <input style="width: 100px;" type="text"/>	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. MIRU TRIPPLE A BUCKET RIG. DRILLED 20" CONDUCTOR HOLE TO 40'. RAN 14" 36.7# SCHEUDLE 10 PIPE. CMT 28 SX READY MIX. SPUD WELL ON 02/06/2012 AT 0930 HRS.		
Accepted by the Utah Division of Oil, Gas and Mining <b>FOR RECORD ONLY</b> February 10, 2012		
<b>NAME (PLEASE PRINT)</b> Sheila Wopsock	<b>PHONE NUMBER</b> 435 781-7024	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 2/9/2012	

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
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<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>	
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12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.  <div style="display: flex; justify-content: space-between;"> <div style="width: 65%;">           MIRU AIR RIG ON FEBRUARY 13, 2012. DRILLED SURFACE HOLE TO 2,510'. RAN SURFACE CASING AND CEMENTED. WELL IS WAITING ON ROTARY RIG. DETAILS OF CEMENT JOB WILL BE INCLUDED WITH WELL COMPLETION REPORT.         </div> <div style="width: 30%; text-align: center;"> <b>Accepted by the Utah Division of Oil, Gas and Mining</b>  <b>FOR RECORD ONLY</b>          February 17, 2012       </div> </div>		
<b>NAME (PLEASE PRINT)</b> Jaime Scharnowske	<b>PHONE NUMBER</b> 720 929-6304	<b>TITLE</b> Regularatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 2/16/2012	

**STATE OF UTAH**  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

FORM 6

**ENTITY ACTION FORM**

Operator: KERR McGEE OIL & GAS ONSHORE LP Operator Account Number: N 2995  
Address: 1368 SOUTH 1200 EAST  
city VERNAL  
state UT zip 84078 Phone Number: (435) 781-7024

Well 1

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304750737	NBU 1022-9B4CS		NENW	9	10S	22E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date		
A	99999	2900	2/6/2012		2/15/12		
Comments: MIRU PETE MARTIN BUCKET RIG. WSMVD SPUD WELL ON 02/06/2012 AT 0930 HRS. BHL: neww							

Well 2

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304750740	NBU 1022-9C4DS		NENW	9	10S	22E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date		
A	99999	2900	2/6/2012		2/15/12		
Comments: MIRU PETE MARTIN BUCKET RIG. WSMVD SPUD WELL ON 02/06/2012 AT 1230 HRS. BHL: neww							

Well 3

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304750739	NBU 1022-9C3CS		NENW	9	10S	22E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date		
A	99999	2900	2/6/2012		2/15/12		
Comments: MIRU PETE MARTIN BUCKET RIG. WSMVD SPUD WELL ON 02/06/2012 AT 1530 HRS. BHL: neww							

**ACTION CODES:**

- A - Establish new entity for new well (single well only)
- B - Add new well to existing entity (group or unit well)
- C - Re-assign well from one existing entity to another existing entity
- D - Re-assign well from one existing entity to a new entity
- E - Other (Explain in 'comments' section)

**RECEIVED**

FEB 09 2012

Div. of Oil, Gas & Mining

SHEILA WOPSOCK

Name (Please Print)

Signature

REGULATORY ANALYST

Title

2/8/2012

Date



<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>			
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 01196D			
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>  <b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES			
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>8. WELL NAME and NUMBER:</b> NBU 1022-9B4CS			
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>9. API NUMBER:</b> 43047507370000			
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0228 FNL 2643 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NENW Section: 09 Township: 10.0S Range: 22.0E Meridian: S		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES  <b>COUNTY:</b> UINTAH  <b>STATE:</b> UTAH			
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA					
<b>TYPE OF SUBMISSION</b>  <input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: 3/6/2012  <input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:  <input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:  <input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	<b>TYPE OF ACTION</b>  <table style="width: 100%; border: none;"> <tr> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> ACIDIZE  <input checked="" type="checkbox"/> CHANGE TO PREVIOUS PLANS  <input type="checkbox"/> CHANGE WELL STATUS  <input type="checkbox"/> DEEPEN  <input type="checkbox"/> OPERATOR CHANGE  <input type="checkbox"/> PRODUCTION START OR RESUME  <input type="checkbox"/> REPERFORATE CURRENT FORMATION  <input type="checkbox"/> TUBING REPAIR  <input type="checkbox"/> WATER SHUTOFF  <input type="checkbox"/> WILDCAT WELL DETERMINATION         </td> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> ALTER CASING  <input type="checkbox"/> CHANGE TUBING  <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS  <input type="checkbox"/> FRACTURE TREAT  <input type="checkbox"/> PLUG AND ABANDON  <input type="checkbox"/> RECLAMATION OF WELL SITE  <input type="checkbox"/> SIDETRACK TO REPAIR WELL  <input type="checkbox"/> VENT OR FLARE  <input type="checkbox"/> SI TA STATUS EXTENSION  <input type="checkbox"/> OTHER         </td> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> CASING REPAIR  <input type="checkbox"/> CHANGE WELL NAME  <input type="checkbox"/> CONVERT WELL TYPE  <input type="checkbox"/> NEW CONSTRUCTION  <input type="checkbox"/> PLUG BACK  <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION  <input type="checkbox"/> TEMPORARY ABANDON  <input type="checkbox"/> WATER DISPOSAL  <input type="checkbox"/> APD EXTENSION            OTHER: <input style="width: 100px;" type="text"/> </td> </tr> </table>		<input type="checkbox"/> ACIDIZE <input checked="" type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER: <input style="width: 100px;" type="text"/>
<input type="checkbox"/> ACIDIZE <input checked="" type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER: <input style="width: 100px;" type="text"/>			
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.  The operator requests approval to deepen the well to the Blackhawk formation (part of the Mesaverde Group). The Operator also requests approval for closed loop drilling option, surface casing change, and a production casing change. All other aspects of the previously approved drilling plan will not change. Please see the attachment. Thank you.					
<b>NAME (PLEASE PRINT)</b> Jaime Scharnowske		<b>PHONE NUMBER</b> 720 929-6304			
<b>SIGNATURE</b> N/A		<b>TITLE</b> Regulatory Analyst  <b>DATE</b> 3/6/2012			

**Approved by the**  
**Utah Division of**  
**Oil, Gas and Mining**  
  
**Date:** March 22, 2012  
**By:** Derek Quist

**Kerr-McGee Oil & Gas Onshore. L.P.****NBU 1022-9B4CS**

Surface:	228 FNL / 2643 FWL	NENW
BHL:	1100 FNL / 1956 FEL	NWNE

Section 9 T10S R22E

Unitah County, Utah  
Mineral Lease: UTU-01196D**ONSHORE ORDER NO. 1****DRILLING PROGRAM**

1. & 2. **Estimated Tops of Important Geologic Markers:**  
**Estimated Depths of Anticipated Water, Oil, Gas, or Mineral Formations:**

<u>Formation</u>	<u>Depth</u>	<u>Resource</u>
Uinta	0 - Surface	
Green River	1,164'	
Birds Nest	1,519'	Water
Mahogany	1,967'	Water
Wasatch	4,313'	Gas
Mesaverde	6,735'	Gas
Sego	8,891'	Gas
Castlegate	8,996'	Gas
Blackhawk	9,422'	Gas
TVD	10,022'	
TD	10,191'	

3. **Pressure Control Equipment** (Schematic Attached)

Please refer to the attached Drilling Program

4. **Proposed Casing & Cementing Program:**

Please refer to the attached Drilling Program

5. **Drilling Fluids Program:**

Please refer to the attached Drilling Program

6. **Evaluation Program:**

Please refer to the attached Drilling Program

**7. Abnormal Conditions:**

Maximum anticipated bottom hole pressure calculated at 10022' TVD, approximately equals  
 6,615 psi (0.66 psi/ft = actual bottomhole gradient)

---

Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD

Maximum anticipated surface pressure equals approximately 4,455 psi (bottom hole pressure  
 minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot, per Onshore Order No. 2).

---

Per Onshore Order No. 2 - Max Anticipated Surf. Press.(MASP) = (Pore Pressure at next csg point-  
 (0.22 psi/ft-partial evac gradient x TVD of next csg point))

**8. Anticipated Starting Dates:**

Drilling is planned to commence immediately upon approval of this application.

**9. Variances:**

Please refer to the attached Drilling Program.  
 Onshore Order #2 – Air Drilling Variance

Kerr-McGee Oil & Gas Onshore LP (KMG) respectfully requests a variance to several requirements associated with air drilling outlined in Onshore Order 2

- Blowout Prevention Equipment (BOPE) requirements;
- Mud program requirements; and
- Special drilling operation (surface equipment placement) requirements associated with air drilling.

This Standard Operating Practices addendum provides supporting information as to why KMG current air drilling practices for constructing the surface casing hole should be granted a variance to Onshore Order 2 air drilling requirements.

The reader should note that the air rig is used only to construct a stable surface casing hole through a historically difficult lost circulation zone. A conventional rotary rig follows the air rig, and is used to drill and construct the majority of the wellbore.

More notable, KMG has used the air rig layout and procedures outlined below to drill the surface casing hole in approximately 675 wells without incident of blow out or loss of life.

**Background**

In a typical well, KMG utilizes an air rig for drilling the surface casing hole, an interval from the surface to surface casing depths, which varies in depth from 1,700 to 2,800 feet. The air rig drilling operation does not drill through productive or over pressured formations in KMG field, but does penetrate the Uinta and Green River Formations. The purpose of the air drilling operation is to overcome the severe loss circulation zone in the Green River known as the Bird's Nest while creating a stable hole for the surface casing. The surface casing hole is generally drilled to approximately 500 feet below the Bird's Nest.

Before the surface air rig is mobilized, a rathole rig is utilized to set and cement conductor pipe through a competent surface formation. Generally, the conductor is set at 40 feet. In some cases, conductor may

be set deeper in areas that the surface formation is not found competent. This rig also drills the rat and mouse holes in preparation for the surface casing and production string drilling operations.

The air rig is then mobilized to drill the surface casing hole by drilling a 12 1/4 inch hole for the first 200 feet, then will drill a 11 inch hole to just above the Bird's Nest interval with an air hammer. The hammer is then tripped and replaced with a 11 inch tri-cone bit. The tri-cone bit is used to drill to the surface casing point, approximately 500 feet below the loss circulation zone (Bird's Nest). The 8-5/8 inch surface casing is then run and cemented in place, thereby isolating the lost circulation zone.

KMG fully appreciates Onshore Order 2 well control and safety requirements associated with a typical air drilling operations. However, the requirements of Onshore Order 2 are excessive with respect to the air rig layout and drilling operation procedures that are currently in practice to drill and control the surface casing hole in KMG Fields.

**Variance for BOPE Requirements**

The air rig operation utilizes a properly lubricated and maintained air bowl diverter system which diverts the drilling returns to a six-inch blooie line. The air bowl is the only piece of BOPE equipment which is installed during drilling operations and is sufficient to contain the air returns associated with this drilling operation. As was discussed earlier, the drilling of the surface hole does not encounter any over pressured or productive zones, and as a result standard BOPE equipment should not be required. In addition, standard drilling practices do not support the use of BOPE on 40 feet of conductor pipe.

**Variance for Mud Material Requirements**

Onshore Order 2 also states that sufficient quantities of mud materials shall be maintained or readily accessible for the purpose of assuring adequate well control. Once again, the surface hole drilling operations does not encounter over pressured or productive intervals, and as a result there is not a need to control pressure in the surface hole with a mud system. Instead of mud, the air rigs utilize water from the reserve pit for well control, if necessary. A skid pump which is located near the reserve pit (see attachment) will supply the water to the well bore.

**Variance for Special Drilling Operation (surface equipment placement) Requirements**

Onshore Order 2 requires specific safety distances or setbacks for the placement of associated standard air drilling equipment, wellbore, and reserve pits. The air rigs used to drill the surface holes are not typical of an air rig used to drill a producing hole in other parts of the US. These are smaller in nature and designed to fit a KMG location. The typical air rig layout for drilling surface hole in the field is attached.

Typically the blooie line discharge point is required to be 100 feet from the well bore. In the case of a KMG well, the reserve pit is only 45 feet from the rig and is used for the drill cuttings. The blooie line, which transports the drill cuttings from the well to the reserve pit, subsequently discharges only 45 feet from the well bore.

Typically the air rig compressors are required to be located in the opposite direction from the blooie line and a minimum of 100 feet from the well bore. At the KMG locations, the air rig compressors are approximately 40 feet from the well bore and approximately 60 feet from the blooie line discharge due to the unique air rig design. The air compressors (see attachment) are located on the rig (1250 cfm) and on a standby trailer (1170 cfm). A booster sits between the two compressors and boosts the output from 350 psi to 2000 psi. The design does put the booster and standby compressor opposite from the blooie line.

Lastly, Onshore Order 2 addresses the need for an automatic igniter or continuous pilot light on the blooie line. The air rig does not utilize an igniter as the surface hole drilling operation does not encounter productive formations.

**Variance for FIT Requirements**

KMG also respectfully requests a variance to Onshore Order 2, Section III, Part Bi, for the pressure integrity test (PIT, also known as a formation integrity test (FIT)). This well is not an exploratory well and is being drilled in an area where the formation integrity is well known. Additionally, when an FIT is run with the mud weight as required, the casing shoe frequently breaks down and causes subsequent lost circulation when drilling the entire depth of the well.

**Conclusion**

The air rig operating procedures and the attached air rig layout have effectively maintained well control while drilling the surface holes in KMG Fields. KMG respectfully requests a variance from Onshore Order 2 with respect to air drilling well control requirements as discussed above.

10. **Other Information:**

Please refer to the attached Drilling Program.



**KERR-McGEE OIL & GAS ONSHORE LP**  
**DRILLING PROGRAM**

COMPANY NAME	KERR-McGEE OIL & GAS ONSHORE LP					DATE	February 8, 2012		
WELL NAME	<b>NBU 1022-9B4CS</b>					TD	10,022'	TVD	10,191' MD
FIELD	Natural Buttes		COUNTY	Uintah	STATE	Utah	FINISHED ELEVATION		5,191'
SURFACE LOCATION	NENW	228 FNL	2643 FWL	Sec 9	T 10S	R 22E			
	Latitude:	39.970103	Longitude:	-109.444818	NAD 83				
BTM HOLE LOCATION	NWNE	1100 FNL	1956 FEL	Sec 9	T 10S	R 22E			
	Latitude:	39.967728	Longitude:	-109.442345	NAD 83				
OBJECTIVE ZONE(S)	BLACKHAWK (Part of the Mesaverde Group)								
ADDITIONAL INFO	Regulatory Agencies: BLM (Minerals), BLM (Surface), UDOGM Tri-County Health Dept.								

GEOLOGICAL			MECHANICAL		
LOGS	FORMATION TOPS	DEPTH	HOLE SIZE	CASING SIZE	MUD WEIGHT
		40'		14"	
			↑ 12-1/4 ↓	↑ 8-5/8", 28#, IJ-55, LTC ↓	↑ Air mist ↓
		200'			
			↑ 11.00' ↓	↑ 8-5/8", 28#, IJ-55, LTC ↓	↑ Air mist ↓
	<b>Green River @</b>	<b>1,164'</b>			
	<b>Top of Birds Nest @</b>	<b>1,519'</b>			
	<b>Mahogany @</b>	<b>1,967'</b>			
	<b>Preset f/ GL @</b>	<b>2,420' TVD</b>			
	Note: 11" surface hole will usually be drilled ±400' below the lost circulation zone (aka bird's nest). Drilled depth may be ±200' of the estimated set depth depending on the actual depth of the loss zone.				
	<b>Wasatch @</b>	<b>4,313'</b>			
Mud logging program TBD Cased hole logging program from TD - surf csg			↑ 7-7/8" ↓	↑ 4-1/2" 11.6# HCP-110 Ultra DQX/LTC csg ↓	↑ Water / Fresh Water Mud 8.3-13.0 ppg ↓
	<b>MVU2 @</b>	<b>6,735'</b>			
	<b>Sego @</b>	<b>8,891'</b>			
	<b>Castlegate @</b>	<b>8,996'</b>			
	<b>Blackhawk @</b>	<b>9,422'</b>			
	<b>Max anticipated Mud required 13.0 ppg</b>	<b>10,022' TVD</b>			
	<b>TD @</b>	<b>10,191' MD</b>			

NBU 1022-9B4CS

Drilling Program  
6 of 7

## KERR-McGEE OIL & GAS ONSHORE LP

### DRILLING PROGRAM

**CASING PROGRAM**

	SIZE	INTERVAL	WT.	GR.	CPLG.	DESIGN FACTORS			
						BURST	COLLAPSE	LTC	DQX
								TENSION	
CONDUCTOR	14"	0-40'				3,390	1,880	348,000	N/A
SURFACE	8-5/8"	0 to 2,420	28.00	IJ-55	LTC	2.22	1.66	5.86	N/A
						10,690	8,650	279,000	367,174
PRODUCTION	4-1/2"	0 to 5,000	11.60	HCP-110	DQX	1.19	1.28		3.88
	4-1/2"	5,000 to 10,191'	11.60	HCP-110	LTC	1.19	1.28	5.78	

**Surface Casing:**

(Burst Assumptions: TD = 13.0 ppg) 0.73 psi/ft = frac gradient @ surface shoe

Fracture at surface shoe with 0.1 psi/ft gas gradient above

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing\*Buoys.Fact. of water)

**Production casing:**

(Burst Assumptions: Pressure test with 8.4ppg @ 9000 psi) 0.66 psi/ft = bottomhole gradient

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing\*Buoys.Fact. of water)

**CEMENT PROGRAM**

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE	LEAD	500'	Premium cmt + 2% CaCl + 0.25 pps flocele	180	60%	15.80	1.15
Option 1							
	TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt + 2% CaCl + 0.25 pps flocele	270	0%	15.80	1.15
SURFACE			NOTE: If well will circulate water to surface, option 2 will be utilized				
Option 2							
	LEAD	1,920'	65/35 Poz + 6% Gel + 10 pps gilsonite + 0.25 pps Flocele + 3% salt BWOW	180	35%	11.00	3.82
	TAIL	500'	Premium cmt + 2% CaCl + 0.25 pps flocele	150	35%	15.80	1.15
	TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.80	1.15
PRODUCTION	LEAD	3,811'	Premium Lite II +0.25 pps celloflake + 5 pps gilsonite + 10% gel + 0.5% extender	300	35%	12.00	3.38
	TAIL	6,380'	50/50 Poz/G + 10% salt + 2% gel + 0.1% R-3	1,510	35%	14.30	1.31

\*Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained

\*Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

**FLOAT EQUIPMENT & CENTRALIZERS**

SURFACE	Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe
PRODUCTION	Float shoe, 1 jt, float collar. 15 centralizers for a Mesaverde and 20 for a Blackhawk well. 1 centralizer on the first 3 joints and one every third joint thereafter.

**ADDITIONAL INFORMATION**

Test casing head to 750 psi after installing. Test surface casing to 1,500 psi prior to drilling out.

BOPE: 11" 5M with one annular and 2 rams. The BOPE will be installed before the production hole is drilled and tested to 5,000 psi (annular to 2,500 psi) prior to drilling out the surface casing shoe. Record on chart recorder and tour sheet. Function test rams on each trip. Maintain safety valve and inside BOP on rig floor at all times. Most rigs have top drives; however, if used, the Kelly is to be equipped with upper and lower kelly valves.

Surveys will be taken at 1,000' minimum intervals.

Most rigs have PVT System for mud monitoring. If no PVT is available, visual monitoring will be utilized.

**DRILLING ENGINEER:**

Nick Spence / Danny Showers / Chad Loesel

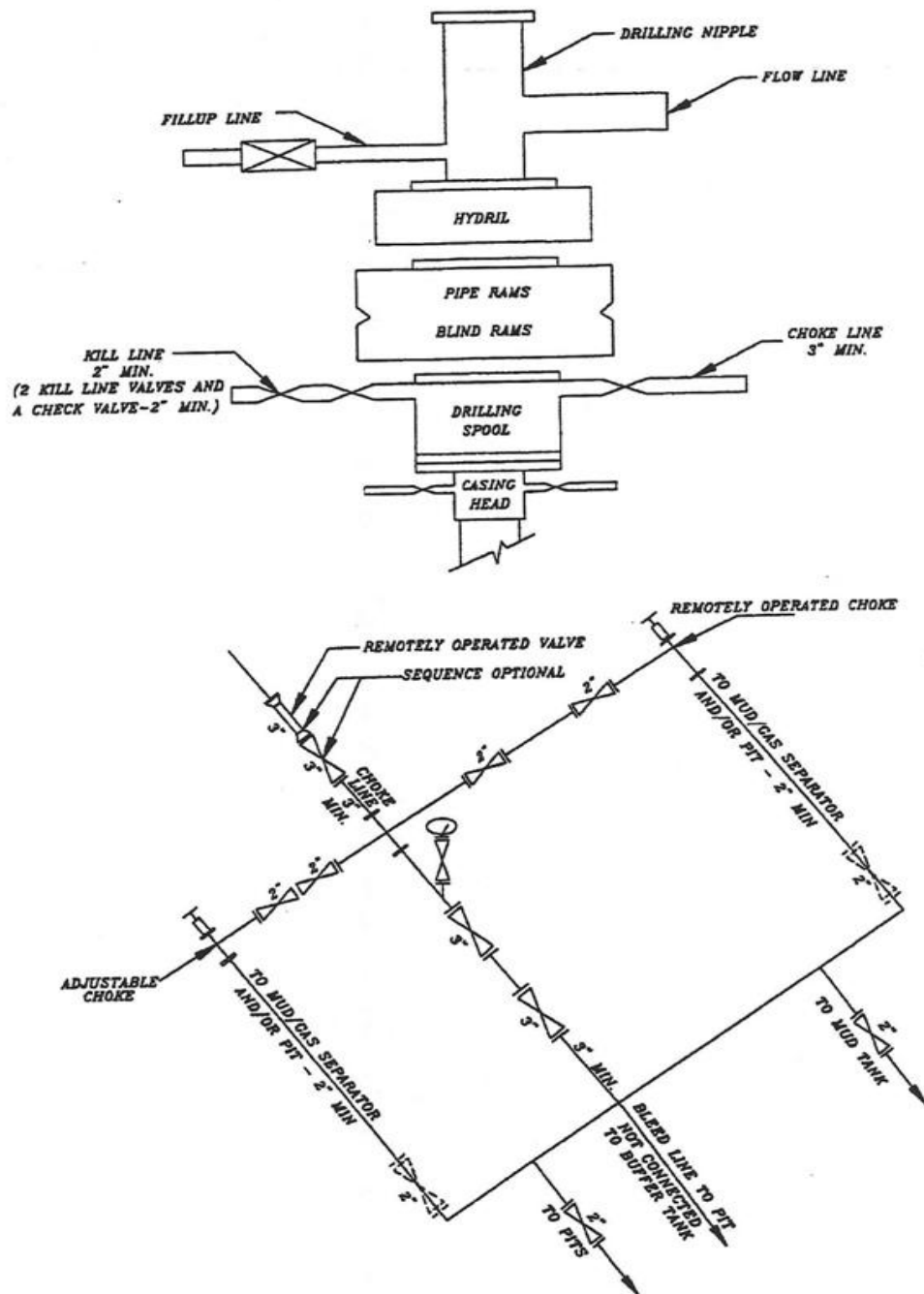
**DATE:****DRILLING SUPERINTENDENT:**

Kenny Gathings / Lovel Young

**DATE:**

RECEIVED: Mar. 06, 2012

**EXHIBIT A**  
**NBU 1022-9B4CS**



**SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK**



Requested Drilling Options:

Kerr-McGee will use either a closed loop drilling system that will require one pit and one cuttings storage area to be constructed on the drilling pad or a traditional drilling operation with one pit used for drilling and completion operations. The cuttings storage area will be used to contain only the de-watered drill cuttings and will be lined and bermed to prevent any liquid runoff. The drill cuttings will be buried in the completion pit once completion operations are completed according to traditional pit closure standards. The pit will be constructed to allow for completion operations. The completion operations pit will be lined with a synthetic material 20 mil or thicker and will be used for the completing of the wells on the pad or used as part of our Aandarko Completions Transportation System (ACTS). Using the closed loop drilling system will allow Kerr-McGee to decrease the amount of disturbance/footprint on location compared to a single large drilling/completions pit.

If Kerr-McGee does not use a closed loop drilling system, it will construct a traditional drilling/completions pit to contain drill cuttings and for use in completion operations. The pit will be lined with a synthetic material 20 mil or thicker. The drill cuttings will be buried in the pit using traditional pit closure standards.

**Carol Daniels - BOP TEST ON NBU 1022-9B4CS**

*T103 R22E S-09 4304750737*

**From:** "Anadarko - H&P 298" <hp298@gesmail.net>  
**To:** <caroldaniels@utah.gov>  
**Date:** 3/19/2012 9:43 AM  
**Subject:** BOP TEST ON NBU 1022-9B4CS

---

Carol, we will be testing bop's on TUESDAY 03/20/2012 12-2 pm ,on H&P 298,NBU 1022-9B4CS  
Have a nice day

JIM MURRAY  
H&P 298  
435 828-0957

**RECEIVED**

**MAR 20 2012**

**DIV. OF OIL, GAS & MINING**

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 01196D
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 1022-9B4CS
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0228 FNL 2643 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NENW Section: 09 Township: 10.0S Range: 22.0E Meridian: S		<b>9. API NUMBER:</b> 43047507370000
<b>5. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>COUNTY:</b> UINTAH		<b>STATE:</b> UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>	
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:  <input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:  <input type="checkbox"/> SPUD REPORT Date of Spud:  <input checked="" type="checkbox"/> DRILLING REPORT Report Date: 3/28/2012	<div style="display: flex; flex-wrap: wrap;"> <div style="width: 33%;"> <input type="checkbox"/> ACIDIZE   <input type="checkbox"/> CHANGE TO PREVIOUS PLANS   <input type="checkbox"/> CHANGE WELL STATUS   <input type="checkbox"/> DEEPEN   <input type="checkbox"/> OPERATOR CHANGE   <input type="checkbox"/> PRODUCTION START OR RESUME   <input type="checkbox"/> REPERFORATE CURRENT FORMATION   <input type="checkbox"/> TUBING REPAIR   <input type="checkbox"/> WATER SHUTOFF   <input type="checkbox"/> WILDCAT WELL DETERMINATION         </div> <div style="width: 33%;"> <input type="checkbox"/> ALTER CASING   <input type="checkbox"/> CHANGE TUBING   <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS   <input type="checkbox"/> FRACTURE TREAT   <input type="checkbox"/> PLUG AND ABANDON   <input type="checkbox"/> RECLAMATION OF WELL SITE   <input type="checkbox"/> SIDETRACK TO REPAIR WELL   <input type="checkbox"/> VENT OR FLARE   <input type="checkbox"/> SI TA STATUS EXTENSION   <input type="checkbox"/> OTHER         </div> <div style="width: 33%;"> <input type="checkbox"/> CASING REPAIR   <input type="checkbox"/> CHANGE WELL NAME   <input type="checkbox"/> CONVERT WELL TYPE   <input type="checkbox"/> NEW CONSTRUCTION   <input type="checkbox"/> PLUG BACK   <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION   <input type="checkbox"/> TEMPORARY ABANDON   <input type="checkbox"/> WATER DISPOSAL   <input type="checkbox"/> APD EXTENSION           OTHER: <input style="width: 100%;" type="text"/> </div> </div>	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.  MIRU ROTARY RIG. FINISHED DRILLING FROM 2510' TO 10,225' ON MARCH 26, 2012. RAN 4-1/2" 11.6# P-110 PRODUCTION CASING. CEMENTED PRODUCTION CASING. RELEASED H&P RIG 298 ON MARCH 28, 2012 @ 22:00 HRS. DETAILS OF CEMENT JOB WILL BE INCLUDED WITH THE WELL COMPLETION REPORT. WELL IS WAITING ON FINAL COMPLETION ACTIVITIES.		
<b>NAME (PLEASE PRINT)</b> Jaime Scharnowske		<b>PHONE NUMBER</b> 720 929-6304
<b>SIGNATURE</b> N/A		<b>TITLE</b> Regulatory Analyst
<b>DATE</b> 3/29/2012		<b>Accepted by the</b> <b>Utah Division of</b> <b>Oil, Gas and Mining</b> <b>FOR RECORD ONLY</b> March 29, 2012

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 01196D
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 1022-9B4CS
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0228 FNL 2643 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NENW Section: 09 Township: 10.0S Range: 22.0E Meridian: S		<b>9. API NUMBER:</b> 43047507370000
<b>PHONE NUMBER:</b> 720 929-6514		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>COUNTY:</b> UINTAH		<b>STATE:</b> UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>	
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> ALTER CASING	
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CASING REPAIR	
<input checked="" type="checkbox"/> DRILLING REPORT Report Date: 6/29/2012	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	
	<input type="checkbox"/> CHANGE WELL STATUS	
	<input type="checkbox"/> CHANGE WELL NAME	
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	
	<input type="checkbox"/> CONVERT WELL TYPE	
	<input type="checkbox"/> DEEPEN	
	<input type="checkbox"/> FRACTURE TREAT	
	<input type="checkbox"/> NEW CONSTRUCTION	
	<input type="checkbox"/> OPERATOR CHANGE	
	<input type="checkbox"/> PLUG AND ABANDON	
	<input type="checkbox"/> PLUG BACK	
	<input checked="" type="checkbox"/> PRODUCTION START OR RESUME	
	<input type="checkbox"/> RECLAMATION OF WELL SITE	
	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION	
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	
	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	
	<input type="checkbox"/> TEMPORARY ABANDON	
	<input type="checkbox"/> TUBING REPAIR	
	<input type="checkbox"/> VENT OR FLARE	
	<input type="checkbox"/> WATER DISPOSAL	
	<input type="checkbox"/> WATER SHUTOFF	
	<input type="checkbox"/> SI TA STATUS EXTENSION	
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	
	<input type="checkbox"/> OTHER: <input style="width: 100px;" type="text"/>	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. THE SUBJECT WELL WAS PLACED ON PRODUCTION ON JUNE 29, 2012 AT 16:00 HRS. THE CHRONOLOGICAL WELL HISTORY WILL BE SUBMITTED WITH THE WELL COMPLETION REPORT.		
<b>Accepted by the          Utah Division of          Oil, Gas and Mining          FOR RECORD ONLY          July 03, 2012</b>		
<b>NAME (PLEASE PRINT)</b> Jaime Scharnowske	<b>PHONE NUMBER</b> 720 929-6304	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A	<b>DATE</b> 7/2/2012	



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENTFORM APPROVED  
OMB No. 1004-0137  
Expires: July 31, 2010

## WELL COMPLETION OR RECOMPLETION REPORT AND LOG

1a. Type of Well <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Dry <input type="checkbox"/> Other		5. Lease Serial No. UTU01196D	
b. Type of Completion <input checked="" type="checkbox"/> New Well <input type="checkbox"/> Work Over <input type="checkbox"/> Deepen <input type="checkbox"/> Plug Back <input type="checkbox"/> Diff. Resvr. Other _____		6. If Indian, Allottee or Tribe Name	
2. Name of Operator KERR MCGEE OIL & GAS ONSHORE		7. Unit or CA Agreement Name and No. UTU63047A	
Contact: CARA MAHLER Mail: cara.mahler@anadarko.com		8. Lease Name and Well No. NBU 1022-9B4CS ✓	
3. Address 1099 18TH STREET, SUITE 1800 DENVER, CO 80202		9. API Well No. 43-047-50737	
3a. Phone No. (include area code) Ph: 720-929-6029		10. Field and Pool, or Exploratory NATURAL BUTTES	
4. Location of Well (Report location clearly and in accordance with Federal requirements)* At surface NENW 228FNL 2643FWL 39.970104 N Lat, 109.444818 W Lon At top prod interval reported below NWNE 1078FNL 1959FEL At total depth NWNE 1132FNL 1914FEL <b>BHL by HSM</b>		11. Sec., T., R., M., or Block and Survey or Area Sec 9 T10S R22E Mer SLB	
14. Date Spudded 02/26/2012		15. Date T.D. Reached 03/26/2012	
16. Date Completed <input type="checkbox"/> D & A <input checked="" type="checkbox"/> Ready to Prod. 06/29/2012		17. Elevations (DF, KB, RT, GL)* 5191 GL	
18. Total Depth: MD 10225 TVD 10067		19. Plug Back T.D.: MD 10171 TVD 10013	
20. Depth Bridge Plug Set: MD TVD		21. Type Electric & Other Mechanical Logs Run (Submit copy of each) BHV-RSL/SM-CBL/GR/COLLARS-TRIPLE COMBO	
22. Was well cored? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes (Submit analysis) Was DST run? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes (Submit analysis) Directional Survey? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes (Submit analysis)			

## 23. Casing and Liner Record (Report all strings set in well)

Hole Size	Size/Grade	Wt. (#/ft.)	Top (MD)	Bottom (MD)	Stage Cementer Depth	No. of Sk. & Type of Cement	Slurry Vol. (BBL)	Cement Top*	Amount Pulled
20.000	14.000 STL	36.7	0	40		28			
11.000	8.625 IJ-55	28.0	0	2505		625		0	
7.875	4.500 P-110	11.6	0	10217		1759		172	

## 24. Tubing Record

Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)
2.375	8754							

## 25. Producing Intervals

Formation	Top	Bottom	Perforated Interval	Size	No. Holes	Perf. Status
A) MESAVERDE	6918	9772	6918 TO 9772	0.360	240	OPEN
B)						
C)						
D)						

## 26. Perforation Record

## 27. Acid, Fracture, Treatment, Cement Squeeze, Etc.

Depth Interval	Amount and Type of Material
6918 TO 9772	PUMP 9,430 BBLs SLICK H2O & 199,562 LBS 30/50 OTTAWA SAND

## 28. Production - Interval A

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
06/29/2012	07/01/2012	24	→	0.0	2674.0	180.0			FLows FROM WELL
Choke Size	Tbg. Press. Flwg. 2250 SI	Csg. Press. 1974.0	24 Hr. Rate →	Oil BBL 0	Gas MCF 2674	Water BBL 180	Gas:Oil Ratio	Well Status PGW	

## 28a. Production - Interval B

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate →	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	

(See Instructions and spaces for additional data on reverse side)

ELECTRONIC SUBMISSION #145729 VERIFIED BY THE BLM WELL INFORMATION SYSTEM

\*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\*

DIV. OF OIL, GAS &amp; MINING

RECEIVED

AUG 21 2012

## 28b. Production - Interval C

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
			→						

## 28c. Production - Interval D

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
			→						

29. Disposition of Gas(Sold, used for fuel, vented, etc.)  
SOLD

## 30. Summary of Porous Zones (Include Aquifers):

Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.

## 31. Formation (Log) Markers

Formation	Top	Bottom	Descriptions, Contents, etc.	Name	Top
					Meas. Depth
				GREEN RIVER BIRD'S NEST MAHOGANY WASATCH MESAVERDE	1190 1544 1909 4363 6776

## 32. Additional remarks (include plugging procedure):

The first 164? of the surface hole was drilled with a 12 ?? bit. The remainder of surface hole was drilled with an 11? bit. P-110 DQX csg was run from surface to 5069'; LTC P-110 csg was run from 5069? to 10,217?. Attached is the chronological well history, perforation report & final survey.

## 33. Circle enclosed attachments:

- |   |                    |               |                       |
|---|--------------------|---------------|-----------------------|
| 1. Electrical/Mechanical Logs (1 full set req'd.)     | 2. Geologic Report | 3. DST Report | 4. Directional Survey |
| 5. Sundry Notice for plugging and cement verification | 6. Core Analysis   | 7 Other:      |                       |

## 34. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records (see attached instructions):

Electronic Submission #145729 Verified by the BLM Well Information System.  
For KERR MCGEE OIL & GAS ONSHORE L, sent to the Vernal

Name (please print) CARA MAHLERTitle AUTHORIZED REPRESENTATIVESignature (Electronic Submission)Date 08/14/2012

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

**\*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\***

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 1022-9B4CS RED

Spud Date: 2/13/2012

Project: UTAH-UINTAH

Site: NBU 1022-9C PAD

Rig Name No: H&P 298/298, CAPSTAR 310/310

Event: DRILLING

Start Date: 2/2/2012

End Date: 3/28/2012

Active Datum: RKB @5,217.00usft (above Mean Sea Level)

UWI: NE/NW0/10/S/22/E/9/0/0/26/PM/N/228.00/E/0/2,643.00/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
2/13/2012	0:00 - 6:00	6.00	MIRU	21	C	P		WAIT ON DAYLIGHT FOR FIELD MOVE
	6:00 - 13:00	7.00	MIRU	01	B	P		MOVE RIG 2.5 MILES /// HOWCROFT- 5 TRUCKS /// CAPSTAR 5 MEN & 1 FORKLIFT /// DERRICK IN AIR @ 10:30 /// RELEASE TRUCKS @ 13:00
	13:00 - 15:30	2.50	PRSPD	14	A	P		WELD ON CONDUCTOR & RIG UP FLOWLINE
	15:30 - 16:30	1.00	PRSPD	06	A	P		PU 12.25" BIT & 8" MM
	16:30 - 17:30	1.00	DRLSUR	02	B	P		SPUD 12.25" SURFACE HOLE F/ 40'- 164'
	17:30 - 18:00	0.50	DRLSUR	06	A	P		TOOH & LD 12.25" BIT
	18:00 - 19:30	1.50	DRLSUR	06	A	P		PU 11" BIT & DIR TOOLS & SCRIBE /// TIH
	19:30 - 0:00	4.50	DRLSUR	02	D	P		DIR DRLG 11" SURFACE HOLE F/ 164'- 862' /// ROP= 698' @ 155 FPH /// WOB= 24-28K /// RPM= 55/110 /// SPP= 1200/900 /// GPM= 650 /// NO LOSSES
2/14/2012	0:00 - 1:30	1.50	DRLSUR	02	D	P		DIR DRLG 11" SURFACE HOLE F/ 862'- 966' /// ROP= 104' @ 70 FPH /// WOB= 24-28K /// RPM= 55/110 /// SPP= 1200/900 /// GPM= 650 /// NO LOSSES
	1:30 - 2:00	0.50	DRLSUR	08	B	Z		WELD LEAK IN DISCHARGE LINE
	2:00 - 20:00	18.00	DRLSUR	02	D	P		DIR DRLG 11" SURFACE HOLE F/ 966'- 2510' /// ROP= 1544' @ 86 FPH /// WOB= 24-28K /// RPM= 55/110 /// SPP= 1200/900 /// GPM= 650 /// LOST CIRC @ 1150' // AIR ON @ 800 CFM
	20:00 - 20:30	0.50	DRLSUR	05	A	P		C&C FOR 8-5/8" CSG
	20:30 - 23:00	2.50	DRLSUR	06	A	P		LLDS & DIR TOOLS
	23:00 - 0:00	1.00	CSG	12	C	P		PJSM /// RUN 56 JT'S, 8-5/8", 28#, J-55, LT&C CSG /// SHOE SET @ 2488' /// BAFFLE @ 2442'
2/15/2012	0:00 - 0:30	0.50	CSG	12	C	P		RUN 8-5/8" CSG
	0:30 - 1:30	1.00	CSG	08	A	Z		REPAIR BOOM HINGE
	1:30 - 2:00	0.50	CSG	12	C	P		FINISH RUNNING 8-5/8" CSG
	2:00 - 2:30	0.50	CSG	05	A	P		CIRC 8-5/8" CSG @ 2488'
	2:30 - 4:30	2.00	CSG	12	E	P		PJSM /// TEST LINES TO 2000 PSI /// PUMP 130 BBL'S WATER AHEAD /// PUMP 20 BBL GEL WATER SPACER /// TAIL= 300 SX CLASS G CMT @ 15.8 WT & 1.15 YIELD /// DROP PLUG & DISPLACE W/ 152 BBL'S WATER /// PLUG DN @ 04:04 2/15/2012 /// BUMP PLUG W/ 600 PSI /// FINAL LIFT = 130 PSI /// CHECK FLOATS- HELD W .5 BBL'S BACK /// NO CIRC & NO CMT TO SURFACE /// PUMP 1stM TOP OUT W/ 150 SX CMT @ 15.8 WT & 1.15 YIELD /// NO CMT TO SURFACE
	4:30 - 5:00	0.50	CSG	14	A	P		CUT OFF CONDUCTOR & HANG CSG
	5:00 - 6:00	1.00	CSG	13	A	P		WAIT ON CMT
	6:00 - 7:00	1.00	CSG	12	E	P		PUMP 2nd TOP OUT W/ 175 SX CMT @ 15.8 WT & 1.15 YIELD /// NO CMT TO SURFACE /// WILL TOP OUT AGAIN ON NEXT JOB /// RELEASE RIG @ 07:00 02/15/2012 TO THE NBU 1022-9C4DS

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 1022-9B4CS RED

Spud Date: 2/13/2012

Project: UTAH-UINTAH

Site: NBU 1022-9C PAD

Rig Name No: H&P 298/298, CAPSTAR 310/310

Event: DRILLING

Start Date: 2/2/2012

End Date: 3/28/2012

Active Datum: RKB @5,217.00usft (above Mean Sea Level)

UWI: NE/NW/0/10/S/22/E/9/0/0/26/PM/N/228.00/E/0/2,643.00/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
3/16/2012	12:00 - 20:00	8.00	RDMO	01	A	P		RDMO / PREP RIG FOR TRUCKS, / SKID RIG BACK 10' / RW JONES 9 TRUCKS, 2 FORKLIFTS 16 MEN, J&C CRANE ON LOC @ 08:00, 4 MEN / RIG CREW 11 MEN TRUCKS ON LOC @ 12:00 TO START RM LOAD OUT PIPE TUBS, CMT SILOS, FRAC TANKS, MOVE 2 UPRIGHTS, BOILER & BAR HOPPER, PARTS HOUSE CREWS RIGGING DOWN BACK YARD, ELECT CORDS / SFTN / ROUTE TAKEN FOR THE 13.3 MILE RIG MOVE, HAS 3 OVER HEAD POWER LINES / LOCATION OF THE LINES WAS REPORTED, TO CDC
	20:00 - 0:00	4.00	RDMO	21	C	P		WAIT ON DAY LIGHT
3/17/2012	0:00 - 6:00	6.00	MIRU	21	C	P		WAIT ON DAYLIGHT
	6:00 - 19:00	13.00	MIRU	01	A	P		HSM, WITH H&P CREWS, 10 MEN, RW JONES TRUCKING, 18 MEN J&C CRANE, 4 MEN, RD MOVE RIG W/ 5 BED TRUCKS, 6 HAUL TRUCKS / 2 FORKLIFTS, 1 CRANE HAUL FUEL TANK, GENS, MCC HOUSE, PUMPS WATER TANK, OIL LUBSTER, 6 CONEX HOUSES, BOP HANDLER, 1 LOAD SKID RAILS, MUD TANKS, SHAKERS, CHOKE HOUSE, FLOW LINES, / NOV EQUIP / LOWER DERRICK @ 15:00 HRS, LOAD OUT / LOWER DOG HOUSE / BLEED SUB CYLINDERS / RIG 90% MOVED, W/ BACK YARD SET IN PLACE & RIGGED UP, SFTN / MAN HRS =143 / 30% RIGGED UP,
	19:00 - 0:00	5.00	MIRU	21	C	P		WAIT ON DAYLIGHT
3/18/2012	0:00 - 6:00	6.00	MIRU	21	C	P		WAIT ON DAYLIGHT
	6:00 - 20:00	14.00	MIRU	01	B	P		HSM / REMOVE WIND WALLS FROM SUB BEFORE LOWERING DUE TO 30 MPH WINDS / LOWER SUB, @09:00 PREP FOR TRUCKS, LOAD & HAUL SUBS, SKID BEAMS, HPU UNIT, DRAWWORKS TO NEW LOCATION RIG, 100% MOVED OFF OLD LOCATION / SET SKID BEAMS, & SUBS SUB UP @ 15:00 / RAISE SHAKERS, SET IN NOV EQUIP, MUD BOAT, SET IN DERRICK & REASSEMBLE / SFTN / RELEASED 6 HAUL TRUCKS @ 12:00, 4 BED TRUCKS @ 18:00 LEAVING 1 TRUCK 1 FORK LIFT - RW JONES-16 PERSONNEL / 1 J&C CRANE - 4 PERSONNEL H&P 11 PERSONNEL=143 MAN HRS / RIG 95 % SET IN PLACE, 50% RIGGED UP
	20:00 - 0:00	4.00	MIRU	21	C	P		WAIT ON DAYLIGHT
3/19/2012	0:00 - 6:00	6.00	MIRU	21	C	P		WAIT ON DAYLIGHT
	6:00 - 0:00	18.00	MIRU	01	B	P		HSM / MIRU / RIG 100% SET IN PLACE, CONTINUE TO RIG UP/ DERRICK UP @ 13:30 / J&C 3 PERSONNEL OFF LOC @ 13:30 / RW JONES 1 TRUCK, 1 FORKLIFT, 3 PERSONNEL OFF LOC @ 15:30, H&P PERSONNEL 10 MAN HRS =190 / CHANGE OUT CENTRIFUGAL, RUN ELECTRICAL CORDS, HOOK UP WATER MUD, AIR LINES, TO RIG FLOOR RIG UP TUGGERS, SPOOL DRILL LINE ON DRUM, UN PIN TOP DRIVE
3/20/2012	0:00 - 2:00	2.00	MIRU	01	B	P		UN PIN MUD BOAT, INSTALL SKID JACKS ALIGN RIG OVER WELL

**US ROCKIES REGION**  
**Operation Summary Report**

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Spud Date: 2/13/2012

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Site: NBU 1022-9C PAD

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Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
3/21/2012	2:00 - 13:00	11.00	PRPSPD	14	A	P		SET IN BOP STACK,NIPPLE UP CHOKE LINE,SPACER SPOOLS,ROTATING HEAD,,OUTER FLOWLINE, TURN BUCKLES,HYDRAULIC LINES, PRESSURE UP KOOMY
	13:00 - 17:00	4.00	PRPSPD	21	D	Z		WAITING / SMITH HAVING FLANGED TEE CHANGED@ CAMERON FROM 71/16 3M, TO 9"2M THAT BOLTS TO ORBIT VALVES
	17:00 - 18:00	1.00	PRPSPD	14	A	P		CALL OUT TESTER ,TEST 85/8 SURFACE CSG TO 1500 PS1,TEST ON TOP DRIVE IBOP VALVE FAILED
	18:00 - 0:00	6.00	PRPSPD	14	A			NIPPLE UP SMITH & MI SWACO EQUIP FLANGED TEE ON LOCATION @ 18:00 HRS NIPPLE UP 2 SMITH AIR ACTUATED FLOWLINE & CHOKE LINE VALVES
	0:00 - 1:00	1.00	PRPSPD	14	A	P		NIPPLE UP SMITH ORBIT VALVES
	1:00 - 5:00	4.00	PRPSPD	15	A	P		PRESSURE TEST H&P EQUIP BLIND RAMS,PIPE RAMS , FLOOR VALVE, KILL LINES & KILL LINE VALVES, BOP WING VALVES , HCR VALVE + CHOKE LINE; INNER AND OUTER CHOKE VALVES & MANIFOLD TO 250 PSI LOW @ 5 MINUTES + 5000 PSI HIGH @ 10 MINUTES / TEST ANNULAR TO 250 PSI LOW @ 5 MINUTES + 2500 PSI HIGH @ 10, CHANGED OUT IBOP AND CHECK VALVE,IN KILL LINE AND RETESTED
	5:00 - 7:00	2.00	PRPSPD	15	A	P		, INSTALL SMITH ROTATING HEAD BEARING ASSEMBLY TESTING SMITH FLOWLINE VALVES AND SWACO DRILLING CHOKE SYSTEM SMITH ROTATING HEAD BEARING ASSEMBLY LEAKING @ LOW TEST PSI,PICK UP BEARING ASSEMBLY AND INSPECT SEALS,RE-SEAT,PULL TOP PLUG,CHECK SEALS, RE-SEAT,AND TEST,HELD 500 PSI ,FLOWLINE ORBIT VALVE LEAKING ,WORK VALVE FLUSH WITH WATER,RE-TEST, VALVE STILL LEAKING
	7:00 - 15:00	8.00	PRPSPD	21	D	Z		SMITH FLOWLINE ORBIT VALVE,FAILED TO TEST AFTER BEING INSTALLED , WAIT ON VALVE, ARRIVED ON LOCATION@12:30 INSTALL VALVE & TEST TO 500 PSI LOW 1100 PSI HIGH
	15:00 - 16:30	1.50	PRPSPD	14	A	P		HOOK UP FLOWLINE AND TURN BUCKLES ON BOP STACK
	16:30 - 17:30	1.00	PRPSPD	14	B	P		INSTALL WEAR BUSHING & SMITH ROTATING HEAD BEARING ASSEMBLY
3/22/2012	17:30 - 18:30	1.00	PRPSPD	23		P		PRE SPUD INSPECTION / GROUND RODS
	18:30 - 23:30	5.00	PRPSPD	06	A	P		PICK UP MUD MOTOR,MAKE UP BIT, PICK UP DIRECTIONAL TOOLS & 30 JTS HWDP ,BREAK CIRC, CHANGE ORING IN MUD LINE
	23:30 - 0:00	0.50	PRPSPD	06	A	P		TIH / PICK UP DRILL PIPE
	0:00 - 1:30	1.50	PRPSPD	06	A	P		PICK UP DRILL PIPE TO 2,200
	1:30 - 3:00	1.50	PRPSPD	07	B	P		LEVEL DERRICK
	3:00 - 3:30	0.50	PRPSPD	14	B	P		INSTALL ROT HEAD
	3:30 - 4:00	0.50	PRPSPD	06	A	P		TRIP IN HOLE 3 STDS TAG CEMENT @ 2,400'
	4:00 - 5:00	1.00	PRPSPD	15	A	P		FUNCTION TEST ON SWACO EQUIP
	5:00 - 6:00	1.00	PRPSPD	02	F	P		DRILL CMT F/ 2,400-2,510,CSG SHOE, OPEN HOLE TO 2,527



**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 1022-9B4CS RED

Spud Date: 2/13/2012

Project: UTAH-UINTAH

Site: NBU 1022-9C PAD

Rig Name No: H&P 298/298, CAPSTAR 310/310

Event: DRILLING

Start Date: 2/2/2012

End Date: 3/28/2012

Active Datum: RKB @5,217.00usft (above Mean Sea Level)

UWI: NE/NW0/10/S/22/E/9/0/0/26/PM/N/228.00/E/0/2,643.00/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	6:00 - 13:30	7.50	DRLPRC	02	D	P		SPUD 77/8 PROD HOLE, DRILL/ SLIDE / SURVEY F/ 2,527 TO 3281 = 754 '@100.5 FPH WOB 16,000-22,000 TOP DRIVE RPM 40-65 MUD MOTOR RPM 82 PUMPS 110 SPM=558 GPM PUMP PRESSURE ON/OFF BTM 1,420 1,215 TORQUE ON/OFF BTM 7,000/4,000 PICK UP WT 103,000 SLACK OFF WT 90,000 ROT WT 99,000 SLIDE 178' IN 150 MIN 23% OF FOOTAGE DRILLED, 33% OF HRS DRILLED MUD WT 8.4 VIS 27
	13:30 - 14:00	0.50	DRLPRC	07	A	P		RIG SERVICE
	14:00 - 0:00	10.00	DRLPRC	02	D	P		, DRILL/ SLIDE / SURVEY F/ , 3,281 TO 4,242 = 961 '@96.1 FPH WOB 16,000-22,000 TOP DRIVE RPM 40-65 MUD MOTOR RPM 89 PUMPS 120 SPM=550 GPM PUMP PRESSURE ON/OFF BTM 1,450/ 1,220 TORQUE ON/OFF BTM 7,000 / 4,000 PICK UP WT 103,000 SLACK OFF WT 90,000 ROT WT 99,000 SLIDE 287' IN 240 MIN 30% OF FOOTAGE DRILLED, 40% OF HRS DRILLED MUD WT 8.4 VIS 27
3/23/2012	0:00 - 6:00	6.00	DRLPRC	02	D	P		DRILL / SLIDE / SURVEY F/ 4,242 TO 4,900=658'=109.6 WOB 18,000-23,000 TOP DRIVE RPM 50-65 MUD MOTOR RPM 89 PUMPS 120 SPM=550 GPM PUMP PRESSURE ON/OFF BTM 1,950/ 1,610 TORQUE ON/OFF BTM 7,000 / 4,000 PICK UP WT 135,000 SLACK OFF WT 120,000 ROT WT 125,000 SLIDE 46' IN 35 MIN 5.3% OF FOOTAGE DRILLED, 12.7% OF HRS DRILLED MUD WT 8.4 VIS 27

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 1022-9B4CS RED

Spud Date: 2/13/2012

Project: UTAH-UINTAH

Site: NBU 1022-9C PAD

Rig Name No: H&P 298/298, CAPSTAR 310/310

Event: DRILLING

Start Date: 2/2/2012

End Date: 3/28/2012

Active Datum: RKB @5,217.00usft (above Mean Sea Level)

UWI: NE/NW0/10/S/22/E/9/0/0/26/PM/N/228.00/E/0/2,643.00/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	6:00 - 13:00	7.00	DRLPRC	02	D	P		DRILL / SLIDE / SURVEY F/ 4,900 TO 5,737=837'=119.5 WOB 18,000-23,000 TOP DRIVE RPM 50-65 MUD MOTOR RPM 89 PUMPS 120 SPM=550 GPM PUMP PRESSURE ON/OFF BTM 2,065/1,1865 TORQUE ON/OFF BTM 10,000 / 8,000 PICK UP WT 162,000 SLACK OFF WT 115,000 ROT WT 138,000 SLIDE 82' IN 75 MIN 9.7% OF FOOTAGE DRILLED,17.8% OF HRS DRILLED MUD WT 8.6 VIS 27
	13:00 - 13:30	0.50	DRLPRC	07	A	P		RIG SERVICE
	13:30 - 0:00	10.50	DRLPRC	02	D	P		DRILL / SLIDE / SURVEY F/ 5,737 TO 6,690=953'=90.5 FPH WOB 18,000-23,000 TOP DRIVE RPM 50-65 MUD MOTOR RPM 89 PUMPS 120 SPM=550 GPM PUMP PRESSURE ON/OFF BTM 2,230/ 1,920 TORQUE ON/OFF BTM 11,000 / 1,000 PICK UP WT 182,000 SLACK OFF WT 128,000 ROT WT 153,000 SLIDE 24' IN 40 MIN 2.5% OF FOOTAGE DRILLED,6.3% OF HRS DRILLED MW 9.0 VIS 32
3/24/2012	0:00 - 1:00	1.00	DRLPRC	02	D	P		DRILL FROM 6,690 TO 6,774 PUMP SWEEP
	1:00 - 1:30	0.50	DRLPRC	05	C	P		CIRC OUT SWEEP,F/ WIPER TRIP
	1:30 - 4:00	2.50	DRLPRC	06	E	P		27 STD WIPER TRIP TO 4,200' TIGHT SPOT@6,731WASH 90' TO BTM 10' FILL
	4:00 - 6:00	2.00	DRLPRC	02	D	P		DRILL F/ 6,776 TO 6,950=174=87 FPH WOB 18,000-24,000 TOP DRIVE RPM 50-65 MUD MOTOR RPM 89 PUMPS 120 SPM=550 GPM PUMP PRESSURE ON/OFF BTM 2,065 /1,865 TORQUE ON/OFF BTM 11,000 / 11,000 PICK UP WT 192,000 SLACK OFF WT 130,000 ROT WT 155,000 SLIDE 20' IN 20 MIN 11.4% OF FOOTAGE DRILLED,16.6% OF HRS DRILLED WT 8.6 VIS 27

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 1022-9B4CS RED

Spud Date: 2/13/2012

Project: UTAH-UINTAH

Site: NBU 1022-9C PAD

Rig Name No: H&P 298/298, CAPSTAR 310/310

Event: DRILLING

Start Date: 2/2/2012

End Date: 3/28/2012

Active Datum: RKB @5,217.00usft (above Mean Sea Level)

UWI: NE/NW0/10/S/22/E/9/0/0/26/PM/N/228.00/E/0/2,643.00/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	6:00 - 14:30	8.50	DRLPRC	02	D	P		DRILL F/ 6,950 TO 7,626=676=79.5 FPH WOB 18,000-24,000 TOP DRIVE RPM 50-65 MUD MOTOR RPM 89 PUMPS 120 SPM=550 GPM PUMP PRESSURE ON/OFF BTM 2,065 /1,865 TORQUE ON/OFF BTM 13,000 / 13,000 PICK UP WT 192,000 SLACK OFF WT 130,000 ROT WT 155,000 SLIDE 80' IN 115 MIN 11.8% OF FOOTAGE DRILLED,22.5% OF HRS DRILLED WT 8.7 VIS 27 RIG SERVICE
	14:30 - 15:00	0.50	DRLPRC	07	A	P		
	15:00 - 0:00	9.00	DRLPRC	02	D	P		DRILL F/ 7,626 TO 8,377=751=83.4 FPH WOB 18,000-24,000 TOP DRIVE RPM 50-65 MUD MOTOR RPM 89 PUMPS 120 SPM=550 GPM PUMP PRESSURE ON/OFF BTM 2,160 /1,960 TORQUE ON/OFF BTM 14,000 / 16,000 PICK UP WT 228,000 SLACK OFF WT 148,000 ROT WT 180,000 SLIDE 20' IN 20 MIN 11.4% OF FOOTAGE DRILLED,16.6% OF HRS DRILLED WT 8.9 VIS 32 / NO MUD LOSS
3/25/2012	0:00 - 6:00	6.00	DRLPRC	02	D	P		DRILL F /8,377 TO 8,825=448'=74.6 FPH WOB 18,000-24,000 TOP DRIVE RPM 50-65 MUD MOTOR RPM 89 PUMPS 110 SPM=495 GPM PUMP PRESSURE ON/OFF BTM 1,915 /1,700 TORQUE ON/OFF BTM 16,000 / 16,000 PICK UP WT 240,000 SLACK OFF WT 142,000 ROT WT 190,000 MUD WT 9.0 VIS 34 20 BBL MUD LOSS RUN CENTRIFUGAL CONVENTIONAL MI SWACO ON LINE @ 8,825 , ANN PRESS 110 PSI / 10-15' FLARE TARGET LOCATION @8,794 11' N 4'E

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 1022-9B4CS RED

Spud Date: 2/13/2012

Project: UTAH-UINTAH

Site: NBU 1022-9C PAD

Rig Name No: H&P 298/298, CAPSTAR 310/310

Event: DRILLING

Start Date: 2/2/2012

End Date: 3/28/2012

Active Datum: RKB @5,217.00usft (above Mean Sea Level)

UWI: NE/NW0/10/S/22/E/9/0/0/26/PM/N/228.00/E/0/2,643.00/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	6:00 - 13:00	7.00	DRLPRC	02	D	P		DRILL f / 8,825 TO 9,231=406'=58 FPH WOB 22,000-28,000 TOP DRIVE RPM 30-45 MUD MOTOR RPM 89 PUMPS 110 SPM=495 GPM PUMP PRESSURE ON/OFF BTM 2,055 /1925 TORQUE ON/OFF BTM 17,000 / 18,000 PICK UP WT 241,000 SLACK OFF WT 150,000 ROT WT 192,000 MUD WT 9.0 VIS 34 NO MUD LOSS 12-15' FLARE NOV RUN 1CENTRIFUGALCONVENTIONAL, #2 VARIABLE SPEED CENTRIFUGAL DOWN, MI SWACO ON LINE ANN PRESS 140 PSI RIG SERVICE
	13:00 - 13:30	0.50	DRLPRC	07	A	P		
	13:30 - 0:00	10.50	DRLPRC	02	D	P		DRILL F/ 9,231 TO 9,645=414'=39.4 FPH WOB 18,000-27,000 TOP DRIVE RPM 30-45 MUD MOTOR RPM 72 PUMPS 100 SPM=450 GPM PUMP PRESSURE ON/OFF BTM 2,135/1,900 TORQUE ON/OFF BTM 19,000 / 18,000 PICK UP WT 250,000 SLACK OFF WT 158,000 ROT WT 197,000 MUD WT 9.2 VIS 36 35 BBL MUD LOSS 10'-12 FLARE RUN CENTRIFUGAL CONVENTIONAL
3/26/2012	0:00 - 6:00	6.00	DRLPRC	02	D	P		DRILL F /9,645 TO 9,920=275=45.8 FPH WOB 20,000-26,000 TOP DRIVE RPM 30-45 MUD MOTOR RPM 72 PUMPS 100 SPM=450 GPM PUMP PRESSURE ON/OFF BTM 2,225 /1,940 TORQUE ON/OFF BTM 19,000 / 18,000 PICK UP WT 251,000 SLACK OFF WT 163,000 ROT WT 204,000 MUD WT 10.0 VIS 38 25 BBL MUD LOSS MI SWACO ON LINE , ANN PRESS 105 5-10' FLARE
	6:00 - 11:30	5.50	DRLPRC	02	D	P		DRILL F /9,920 TO 10,225 TD=305=55.4 FPH WOB 20,000-26,000 TOP DRIVE RPM 30-45 MUD MOTOR RPM 72 PUMPS 100 SPM=450 GPM PUMP PRESSURE ON/OFF BTM 2,330 /2,150 TORQUE ON/OFF BTM 19,000 / 18,000 PICK UP WT 260,000 SLACK OFF WT 163,000 ROT WT 205,000 MUD WT 11.6 VIS 38 20 BBL MUD LOSS MUD LOSS

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 1022-9B4CS RED

Spud Date: 2/13/2012

Project: UTAH-UINTAH

Site: NBU 1022-9C PAD

Rig Name No: H&P 298/298, CAPSTAR 310/310

Event: DRILLING

Start Date: 2/2/2012

End Date: 3/28/2012

Active Datum: RKB @5,217.00usft (above Mean Sea Level)

UWI: NE/NW/0/10/S/22/E/9/0/0/26/PM/N/228.00/E/0/2,643.00/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
3/27/2012	11:30 - 14:00	2.50	DRLPRC	05	B	P		CIRC AND COND HOLE ,RAISE MW TO 11.6 /BUILD SLUG
	14:00 - 0:00	10.00	DRLPRC	06	E	P		WIPER TRIP / BACK REAM OUT 20 STANDS, TO 8,230', PUMP SLUG TOH TO CSG SHOE, FLOW CHECK/ FILL PIPE TIH TO 10,050, FILL PIPE W & R 175' TO BOTTOM , 10' FILL
	0:00 - 0:30	0.50	DRLINC	06	E	P		CIRC & COND MUD ,PUMP SWEEP / RAISE MW TO 11.8#
	0:30 - 2:30	2.00	DRLINC	05	B	P		BACK REAM OUT 10 STDs, PUMP SLUG, TOH F/ OPEN HOLE LOGS, FLOW CHECK @ CSG SHOE, TOH LD MWD, BREAK BIT, L/D M MTR
	2:30 - 9:30	7.00	EVALPR	06	B	P		CTJSA W/ HALLIBURTON, RIG UP AND RUN TRIPLE COMBO BRIDGED OUT @ 5,388' LOG OUT TO SURFACE / R/D
	9:30 - 14:30	5.00	EVALPR	11	G	P		TRIP IN HOLE OPEN ENDED TO 6,700', TIGHT SPOTS, 5,140, 5482, 5,560
	14:30 - 19:00	4.50	EVALPR	06	B	P		RIG UP & RUN SLIM HOLE LOG TOOLS THRU DP, BRIDGED OUT @ 7,350', LOG OUT TO 53,88, TOH R/D
3/28/2012	19:00 - 23:30	4.50	EVALPR	11	G	P		TRIP OUT FROM 6,700' WITH DRILL PIPE
	23:30 - 0:00	0.50	EVALPR	06	D	P		TRIP OUT WITH DRILL PIPE FROM 6,700'
	0:00 - 2:30	2.50	DRLPRO	06	B	P		PULL SMITH ROTATING HEAD BEARING ASSY, PULL WEAR BUSHING, REPLACE BEARING ASSY / FUNCTION TEST BOP'S
	2:30 - 3:30	1.00	CSGPRO	14	B	P		CTJSA WITH KIMZEY AND RIG CREWS, X/O CSG BAILS
	3:30 - 4:30	1.00	CSGPRO	12	A	P		RIG UP KIMZEY CASERS
	4:30 - 5:30	1.00	CSGPRO	12	A	P		MAKE UP FLOAT EQUIP, RUN 4 1/2" PRODUCTION CASING TO 10,218' W/ NO PROBLEMS / SHOE @ 10,218' / FLOAT COLLAR @ 10,173' BLACK HAWK MARKER @ 9,621' / M VERDE MARKER @ 6,973' / X-O @ 5,044' TOTAL JTS RAN 242
	5:30 - 14:30	9.00	CSGPRO	12	C	P		CIRC & COND MUD @ 10,218' PRE JOB SAFETY MEETING WITH BJ CEMENTERS
	14:30 - 16:00	1.50	DRLPRO	05	A	P		INSTALL BJ CMT HEAD , TEST PUMP & LINES TO 5,000 PSI , DROP BOTTOM PLUG PUMP 5 BBLS FW 40 BBLS SEAL BOND SPACER @ 12.0PPG PUMP 492 SKS LEAD CEMENT @ 12.5 PPG, 177 BBL SLURRY (PREM LITE II + .025 pps CELLO FLAKE + 5 pps KOL SEAL +0.4 bwocFL52+ .05 lb/sx STATIC FREE + 8% bwoc BENTONITE + .2% bwoc SODIUM META SILICATE + 0.35 % R-3 + 101.8% FRESH WATER / (10.62 gal/sx, 2.02 yield) + 1,267 SX TAIL @ 14.3 ppg 297 BBL SLURRY (CLS G 50/50 POZ + 10% SALT + .005lbs/sx STATIC FREE + .2% R3 +0.5%bwocEC-1+ .002 GPS FP-6L + 2% BENTONITE + 58.9% FW / (5.94 gal/sx, 1.32 yield) / DROP TOP PLUG & DISPLACE W/ 158 BBLS H2O + ADDITIVES / PLUG DOWN @ 18:36 HOURS / FLOATS HELD W/ 2 BBLS H2O RETURNED TO INVENTORY/ GOOD CIRC THROUGH OUT 5 BBLS LEAD CMT TO SURFACE / LIFT PRESSURE @2801 PSI / BUMP PRESSURE TO 3,465 PSI / TOP OF TAIL CEMENT CALCULATED @ 4,000' / RIG DOWN CMT EQUIPMENT
	16:00 - 19:30	3.50	DRLPRO	12	E	P		



**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 1022-9B4CS RED				Spud Date: 2/13/2012				
Project: UTAH-UINTAH			Site: NBU 1022-9C PAD				Rig Name No: H&P 298/298, CAPSTAR 310/310	
Event: DRILLING			Start Date: 2/2/2012				End Date: 3/28/2012	
Active Datum: RKB @5,217.00usft (above Mean Sea Level)			UWI: NE/NW/0/10/S/22/E/9/0/0/26/PM/N/228.00/E/0/2,643.00/0/0					
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	19:30 - 20:30	1.00	DRLPRO	14	A	P		RAISE BOP / SET SLIPS WITH 110K / CUT CASING OFF AND LAY DOWN SAME
	20:30 - 22:00	1.50	DRLPRO	14	A	P		PRE JOB SAFETY MEETING NIPPLE DOWN BOP'S RELEASE RIG @ 22:00 HRS 3/28/12

## 1 General

### 1.1 Customer Information

Company	US ROCKIES REGION
Representative	
Address	

### 1.2 Well/Wellbore Information

Well	NBU 1022-9B4CS RED	Wellbore No.	OH
Well Name	NBU 1022-9B4CS	Wellbore Name	NBU 1022-9B4CS
Report No.	1	Report Date	5/25/2012
Project	UTAH-UINTAH	Site	NBU 1022-9C PAD
Rig Name/No.		Event	COMPLETION
Start Date	5/25/2012	End Date	6/29/2012
Spud Date	2/13/2012	Active Datum	RKB @5,217.00usft (above Mean Sea Level)
UWI	NE/NW/0/10/S/22/E/9/0/0/26/PM/N/228.00/E/0/2,643.00/0/0		

### 1.3 General

Contractor		Job Method		Supervisor	
Perforated Assembly		Conveyed Method			

### 1.4 Initial Conditions

Fluid Type		Fluid Density	
Surface Press		Estimate Res Press	
TVD Fluid Top		Fluid Head	
Hydrostatic Press		Press Difference	
Balance Cond	NEUTRAL		

### 1.5 Summary

Gross Interval	6,918.0 (usft)-9,772.0 (usft)	Start Date/Time	6/8/2012 12:00AM
No. of Intervals	45	End Date/Time	7/22/2012 12:00AM
Total Shots	240	Net Perforation Interval	66.00 (usft)
Avg Shot Density	3.64 (shot/ft)	Final Surface Pressure	
		Final Press Date	

## 2 Intervals

### 2.1 Perforated Interval

Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diamete r (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
6/8/2012 12:00AM	MESAVERDE/			6,918.0	6,921.0	4.00		0.360	EXP/	3.375	90.00			23.00 PRODUCTION	

## 2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diamete r (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
6/9/2012 12:00AM	MESAVERDE/			6,934.0	6,937.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
6/10/2012 12:00AM	MESAVERDE/			7,204.0	7,210.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
6/11/2012 12:00AM	MESAVERDE/			7,420.0	7,421.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
6/12/2012 12:00AM	MESAVERDE/			7,441.0	7,444.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
6/13/2012 12:00AM	MESAVERDE/			7,472.0	7,474.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
6/14/2012 12:00AM	MESAVERDE/			7,588.0	7,589.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
6/15/2012 12:00AM	MESAVERDE/			7,603.0	7,604.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
6/16/2012 12:00AM	MESAVERDE/			7,633.0	7,634.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
6/17/2012 12:00AM	MESAVERDE/			7,645.0	7,646.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
6/18/2012 12:00AM	MESAVERDE/			7,678.0	7,679.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
6/19/2012 12:00AM	MESAVERDE/			7,753.0	7,754.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
6/20/2012 12:00AM	MESAVERDE/			7,787.0	7,788.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
6/21/2012 12:00AM	MESAVERDE/			7,803.0	7,804.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
6/22/2012 12:00AM	MESAVERDE/			7,864.0	7,865.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
6/23/2012 12:00AM	MESAVERDE/			7,937.0	7,938.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
6/24/2012 12:00AM	MESAVERDE/			7,960.0	7,961.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
6/25/2012 12:00AM	MESAVERDE/			7,982.0	7,983.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
6/26/2012 12:00AM	MESAVERDE/			8,015.0	8,016.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
6/27/2012 12:00AM	MESAVERDE/			8,027.0	8,028.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
6/28/2012 12:00AM	MESAVERDE/			8,046.0	8,048.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
6/29/2012 12:00AM	MESAVERDE/			8,183.0	8,184.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	

## 2.1 Perforated Interval (Continued)

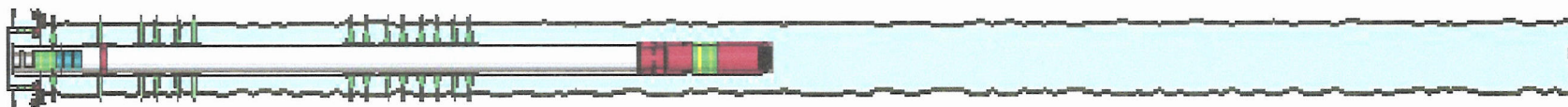
Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diamete r (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
6/30/2012 12:00AM	MESAVERDE/			8,208.0	8,209.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
7/1/2012 12:00AM	MESAVERDE/			8,230.0	8,231.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
7/2/2012 12:00AM	MESAVERDE/			8,275.0	8,276.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
7/3/2012 12:00AM	MESAVERDE/			8,310.0	8,311.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
7/4/2012 12:00AM	MESAVERDE/			8,340.0	8,341.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
7/5/2012 12:00AM	MESAVERDE/			8,378.0	8,380.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
7/6/2012 12:00AM	MESAVERDE/			8,473.0	8,474.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
7/7/2012 12:00AM	MESAVERDE/			8,493.0	8,494.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
7/8/2012 12:00AM	MESAVERDE/			8,531.0	8,532.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
7/9/2012 12:00AM	MESAVERDE/			8,541.0	8,542.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
7/10/2012 12:00AM	MESAVERDE/			8,555.0	8,556.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
7/11/2012 12:00AM	MESAVERDE/			8,575.0	8,576.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
7/12/2012 12:00AM	MESAVERDE/			8,672.0	8,673.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
7/13/2012 12:00AM	MESAVERDE/			8,697.0	8,698.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
7/14/2012 12:00AM	MESAVERDE/			8,715.0	8,717.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
7/15/2012 12:00AM	MESAVERDE/			8,726.0	8,728.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
7/16/2012 12:00AM	MESAVERDE/			8,772.0	8,773.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
7/17/2012 12:00AM	MESAVERDE/			8,889.0	8,891.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
7/18/2012 12:00AM	MESAVERDE/			8,930.0	8,933.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
7/19/2012 12:00AM	MESAVERDE/			9,706.0	9,708.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
7/20/2012 12:00AM	MESAVERDE/			9,743.0	9,745.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	

## 2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diamete r (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
7/21/2012 12:00AM	MESAVERDE/			9,762.0	9,763.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
7/22/2012 12:00AM	MESAVERDE/			9,771.0	9,772.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	

## 3 Plots

## 3.1 Wellbore Schematic



**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 1022-9B4CS RED

Spud Date: 2/13/2012

Project: UTAH-UINTAH

Site: NBU 1022-9C PAD

Rig Name No: SWABBCO 8/8

Event: COMPLETION

Start Date: 5/25/2012

End Date: 6/29/2012

Active Datum: RKB @5,217.00usft (above Mean Sea Level)

UWI: NE/NW/0/10/S/22/E/9/0/0/26/PM/N/228.00/E/0/2,643.00/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
2/13/2012	-							
6/7/2012	7:00 - 7:15	0.25	COMP	48		P		HELD SAFETY MEETING: PRESSURE SIGNS INSTALLED
	7:15 - 9:00	1.75	COMP	33		P		FILL SURFACE CSG. MIRU B&C QUICK TEST. PSI TEST T/ 1000 PSI. HELD FOR 15 MIN LOST 3 PSI. PSI TEST T/ 3500 PSI. HELD FOR 15 MIN LOST 12 PSI. 1ST PSI TEST T/ 9000 PSI. HELD FOR 30 MIN LOST 68 PSI. NO COMMUNICATION OR MIGRATION WITH SURFACE CSG BLEED OFF PSI. MOVE T/ NEXT WELL. SVMFW HSM. HIGH PSI LINES.
6/18/2012	6:45 - 7:00	0.25	COMP	48		P		



**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 1022-9B4CS RED

Spud Date: 2/13/2012

Project: UTAH-UINTAH

Site: NBU 1022-9C PAD

Rig Name No: SWABBCO 8/8

Event: COMPLETION

Start Date: 5/25/2012

End Date: 6/29/2012

Active Datum: RKB @5,217.00usft (above Mean Sea Level)

UWI: NE/NW0/10/S/22/E/9/0/0/26/PM/N/228.00/E/0/2,643.00/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	7:00 - 18:00	11.00	COMP	36	B	P		<p>PERF STG 1)PU 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 DEG PHASING, 24 HOLES. RIH PERF STG 1 AS PER DESIGN.</p> <p>PSI TEST FRAC LINES T/ 9000 PSI.</p> <p>FRAC STG 1)WHP 490 PSI, BRK 3953 PSI @ 4.7 BPM. ISIP 2971 PSI, FG .74. CALC HOLES OPEN @ 52.2 BPM @ 6254 PSI = 89% HOLES OPEN. (21/24 HOLES OPEN) ISIP 2962 PSI, FG .74, NPI -9 PSI. MP 6446 PSI, MR 53 BPM, AP 5639 PSI, AR 52 BPM PUMPED 30/50 OTTAWA SAND IN THIS STAGE X-OVER FOR W L</p> <p>PERF STG 2)PU 4 1/2 8K HAL CBP &amp; 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 DEG PHASING, 24 HOLES. RIH SET CBP @ 8983' P/U PERF AS PER DESIGN. POOH. X-OVER FOR FRAC CREW.</p> <p>FRAC STG 2)WHP 1688 PSI, BRK 2761 PSI @ 4.7 BPM. ISIP 2430 PSI, FG .71. CALC HOLES OPEN @ 52.8 BPM @ 4974 PSI = 100% HOLES OPEN. (24/24 HOLES OPEN) ISIP 2511 PSI, FG .72, NPI 81 PSI. MP 5156 PSI, MR 53.4 BPM, AP 4637 PSI, AR 52.3 BPM PUMPED 30/50 OTTAWA SAND IN THIS STAGE X-OVER FOR W L</p> <p>PERF STG 3)PU 4 1/2 8K HAL CBP &amp; 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 DEG PHASING, 24 HOLES. RIH SET CBP @ 8758' P/U PERF AS PER DESIGN. POOH, X-OVER FOR FRAC CREW.</p> <p>FRAC STG 3)WHP 1300 PSI, BRK 3324 PSI @ 4.7 BPM. ISIP 2398 PSI, FG .71. CALC HOLES OPEN @ 52.7 BPM @ 4831PSI = 100% HOLES OPEN. (24/24 HOLES OPEN) ISIP 2535 PSI, FG .72, NPI 137 PSI. MP 5125 PSI, MR 53.2 BPM, AP 4407 PSI, AR 52.4 BPM PUMPED 30/50 OTTAWA SAND IN THIS STAGE X-OVER FOR W L</p> <p>PERF STG 4)PU 4 1/2 8K HAL CBP &amp; 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 DEG PHASING, 24 HOLES. RIH SET CBP @ 8606' P/U PERF AS PER DESIGN. POOH, X-OVER FOR FRAC CREW.</p> <p>FRAC STG 4)WHP 881 PSI, BRK 2683 PSI @ 4.7 BPM. ISIP 2324 PSI, FG .71. CALC HOLES OPEN @ 52.8 BPM @ 4708 PSI = 100% HOLES OPEN. (24/24 HOLES OPEN) ISIP 2728 PSI, FG .76, NPI 404 PSI. MP 4919 PSI, MR 55 BPM, AP 4468 PSI, AR 52.5 BPM</p>

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 1022-9B4CS RED

Spud Date: 2/13/2012

Project: UTAH-UINTAH

Site: NBU 1022-9C PAD

Rig Name No: SWABBCO 8/8

Event: COMPLETION

Start Date: 5/25/2012

End Date: 6/29/2012

Active Datum: RKB @5,217.00usft (above Mean Sea Level)

UWI: NE/NW0/10/S/22/E/9/0/0/26/PM/N/228.00/E/0/2,643.00/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
6/19/2012	7:00 - 18:00	11.00	COMP	36	B	P		<p>PUMPED 30/50 OTTAWA SAND IN THIS STAGE. SWIFN.</p> <p>PERF STG 5)PU 4 1/2 8K HAL CBP &amp; 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 120 DEG PHASING. 24 HOLE SIZE. RIH SET CBP @ 8410' P/U PERF AS PER DESIGN. POOH, X-OVER FOR FRAC CREW.</p> <p>FRAC STG 5)WHP 1209 PSI, BRK 2613 PSI @ 4.1 BPM. ISIP 1859 PSI, FG .66. CALC HOLES OPEN @ 53.1 BPM @ 4478 PSI = 100% HOLES OPEN. (24/24 HOLES OPEN) ISIP 2648 PSI, FG .76, NPI 789 PSI. MP 5315 PSI, MR 55.4 BPM, AP 4473 PSI, AR 53.1 BPM</p> <p>PUMPED 30/50 OTTAWA SAND IN THIS STAGE X-OVER FOR W L</p> <p>PERF STG 6)PU 4 1/2 8K HAL CBP &amp; 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 120 DEG PHASING. 24 HOLES. RIH SET CBP @ 8078' P/U PERF AS PER DESIGN. POOH, X-OVER FOR FRAC CREW.</p> <p>WAIT ON FUEL. FUEL TRUCK WAS ON IT'S WAY WHEN RADIATOR BLEW UP. SWIFN. HSM. HIGH PSI LINES.</p>
6/20/2012	6:45 - 7:00	0.25	COMP	48		P		

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 1022-9B4CS RED

Spud Date: 2/13/2012

Project: UTAH-UINTAH

Site: NBU 1022-9C PAD

Rig Name No: SWABBCO 8/8

Event: COMPLETION

Start Date: 5/25/2012

End Date: 6/29/2012

Active Datum: RKB @5,217.00usft (above Mean Sea Level)

UWI: NE/NW/0/10/S/22/E/9/0/0/26/PM/N/228.00/E/0/2,643.00/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	7:00 - 18:00	11.00	COMP	36	B	P		<p>FRAC STG 6)WHP 1425 PSI, BRK 3277 PSI @ 4.7 BPM. ISIP 2099 PSI, FG .70. CALC HOLES OPEN @ 55.2 BPM @ 4346 PSI = 100% HOLES OPEN. (24/24 HOLES OPEN) ISIP 2366 PSI, FG .74, NPI 267 PSI. MP 5185 PSI, MR 66.3 BPM, AP 4730 PSI, AR 54.8 BPM PUMPED 30/50 OTTAWA SAND IN THIS STAGE X-OVER FOR WL</p> <p>PERF STG 7)PU 4 1/2 8K HAL CBP &amp; 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 120 DEG PHASING. 24 HOLES. RIH SET CBP @ 7834' P/U PERF AS PER DESIGN. POOH, X-OVER FOR FRAC CREW.</p> <p>FRAC STG 7)WHP 1357 PSI, BRK 2141 PSI @ 4.6 BPM. ISIP 1687 PSI, FG .66. CALC HOLES OPEN @ 55.1 BPM @ 4934 PSI = 88% HOLES OPEN. (21/24 HOLES OPEN) ISIP 2626 PSI, FG .78, NPI 960 PSI. MP 5324 PSI, MR 55.4 BPM, AP 4718 PSI, AR 54.7 BPM PUMPED 30/50 OTTAWA SAND IN THIS STAGE X-OVER FOR WL</p> <p>PERF STG 8)PU 4 1/2 8K HAL CBP &amp; 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 DEG PHASING. 24 HOLES. RIH SET CBP @ 7504' P/U PERF AS PER DESIGN. POOH, X-OVER FOR FRAC CREW.</p> <p>FRAC STG 8)WHP 938 PSI, BRK 2637 PSI @ 4.8 BPM. ISIP 1400 PSI, FG .63. CALC HOLES OPEN @ 53.1 BPM @ 4408 PSI = 88% HOLES OPEN. (24/24 HOLES OPEN) ISIP 2761 PSI, FG .81, NPI 1361 PSI. MP 5065 PSI, MR 56.3 BPM, AP 4716 PSI, AR 52.6 BPM PUMPED 30/50 OTTAWA SAND IN THIS STAGE X-OVER FOR WL</p> <p>PERF STG 9)PU 4 1/2 8K HAL CBP &amp; 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 DEG PHASING. 24 HOLES. RIH SET CBP @ 7240' P/U PERF AS PER DESIGN. POOH, X-OVER FOR FRAC CREW.</p> <p>FRAC STG 9)WHP 137 PSI, BRK 3040 PSI @ 4.8 BPM. ISIP 1303 PSI, FG .62. CALC HOLES OPEN @ 52.8 BPM @ 4169 PSI = 88% HOLES OPEN. (21/24 HOLES OPEN) ISIP 2317 PSI, FG .76, NPI 1014 PSI. MP 4422 PSI, MR 53.6 BPM, AP 4225 PSI, AR 52.3 BPM PUMPED 30/50 OTTAWA SAND IN THIS STAGE X-OVER FOR WL</p> <p>PERF STG 10)PU 4 1/2 8K HAL CBP &amp; 3 1/8 EXP</p>

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 1022-9B4CS RED

Spud Date: 2/13/2012

Project: UTAH-UINTAH

Site: NBU 1022-9C PAD

Rig Name No: SWABBCO 8/8

Event: COMPLETION

Start Date: 5/25/2012

End Date: 6/29/2012

Active Datum: RKB @5,217.00usft (above Mean Sea Level)

UWI: NE/NW0/10/S/22/E/9/0/0/26/PM/N/228.00/E/0/2,643.00/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
								<p>GUN, 23 GM, .36 HOLE SIZE. 90 DEG PHASING. 24 HOLES. RIH SET CBP @ 6967' P/U PERF AS PER DESIGN. POOH, X-OVER FOR FRAC CREW.</p> <p>FRAC STG 10)WHP 420 PSI, BRK 2259 PSI @ 4.6 BPM. ISIP 1050 PSI, FG .59.  CALC HOLES OPEN @ 53 BPM @ 4123 PSI = 83% HOLES OPEN. (20/24 HOLES OPEN)  ISIP 2294 PSI, FG .77, NPI 1244 PSI.  MP 4278 PSI, MR 53.6 BPM, AP 3854 PSI, AR 52.7 BPM  PUMPED 30/50 OTTAWA SAND IN THIS STAGE  X-OVER FOR W L</p> <p>PU 4 1/2 8K HAL CBP, RIH SET KILL PLUG @ 6868'.</p> <p>TOTAL SAND = 199,562 LBS  TOTAL CLFL = 9430 BBL</p>
6/28/2012	12:00 - 17:00	5.00	COMP	30	A	P		<p>MOVE OVER &amp; RIG UP, ND WH NU BOPS RU FLOOR &amp; TBG EQUIP.37/8 BIT, POBS, 1.875 X/N &amp; 154 JTS 23/8 P-110 EOT @ 4884' SVM SDFN.</p>
6/29/2012	7:00 - 7:30	0.50	COMP	48		P		HSM, WATCHING FOR LEAKS IN FLOW LINES.
	7:30 - 9:00	1.50	COMP	31	I	P		<p>SICP 0, PU REM 62 JTS 23/8 P-110, RU DRLG EQUIP BROKE CIRC CONV, TEST BOPS TO 4,000 PSI  OK.RIH</p>

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 1022-9B4CS RED

Spud Date: 2/13/2012

Project: UTAH-UINTAH

Site: NBU 1022-9C PAD

Rig Name No: SWABBCO 8/8

Event: COMPLETION

Start Date: 5/25/2012

End Date: 6/29/2012

Active Datum: RKB @5,217.00usft (above Mean Sea Level)

UWI: NE/NW0/10/S/22/E/9/0/0/26/PM/N/228.00/E/0/2,643.00/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	9:00 - 15:00	6.00	COMP	44	C	P		<p>C/O 5' SAND TAG 1ST PLUG @ 6,868' DRL PLG IN 5 MIN, 250# PSI INCREASE RIH</p> <p>C/O 10' SAND TAG 2ND PLUG @ 6,972' DRL PLG IN 2 MIN, 100# PSI INCREASE RIH</p> <p>C/O 15' SAND TAG 3RD PLUG @ 7,240' DRL PLG IN 4 MIN, 750# PSI INCREASE RIH</p> <p>C/O 15' SAND TAG 4TH PLUG @ 7,504' DRL PLG IN 4 MIN, 1000# PSI INCREASE RIH</p> <p>C/O 30' SAND TAG 5TH PLUG @ 7,834' DRL PLG IN 3 MIN, 1500# PSI INCREASE RIH</p> <p>C/O 25' SAND TAG 6TH PLUG @ 8,078' DRL PLG IN 3 MIN, 500# PSI INCREASE RIH</p> <p>C/O 15' SAND TAG 7TH PLUG @ 8,397' DRL PLG IN 4 MIN, 600# PSI INCREASE RIH</p> <p>C/O 30' SAND TAG 8TH PLUG @ 8,606' DRL PLG IN 5 MIN, 1200# PSI INCREASE RIH</p> <p>C/O 10' SAND TAG 9TH PLUG @ 8,758' DRL PLG IN 6 MIN, 750# PSI INCREASE RIH</p> <p>C/O 20' SAND TAG 10TH PLUG @ 8,907' DRL PLG IN 6 MIN, 600# PSI INCREASE RIH</p> <p>C/O TO 9896', CIRC CLN, L/D 36 JTS. LAND TBG ON 275 JTS 23/8 P-110. ND BOPS NU WH, TEST FLOW LINE TO 4,000 PSI, PUMP OFF BIT, TURN WELL OVER TO FB CREW. SDFWE</p> <p>KB= 26' ( SURFOPEN W/ POPOFF )</p> <p>HANGER = .83' SICP 2600</p> <p>PSI, FTP 100 PSI</p> <p>275 JTS 23/8 P-110 = 8725.31'</p> <p>POBS W/ 1.875 X/N = 2.20'</p> <p>EOT @ 8754.34'</p> <p>TWTR 9650 BBLS</p> <p>TWR 900 BBLS</p> <p>TWLTR 8750 BBLS</p> <p>324 JTS IN WELL</p> <p>275 LANDED</p> <p>49 TO RETURN</p>

6/30/2012

Project: UTAH - UTM (feet), NAD27, Zone 12N  
 Site: UINTAH, NBU 1022-9C Pad  
 Well: NBU 1022-9B4CS  
 Wellbore: NBU 1022-9B4CS  
 Section:  
 SHL:  
 Design: NBU 1022-9B4CS  
 Latitude: 39.970138  
 Longitude: -109.444135  
 GL: 5191.00  
 KB: 26' RKB + GL @ 5217.00ft

#### FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1967.00	2031.01	Mahogany
4313.00	4476.37	Wasatch
4913.00	5076.40	top of cylinder
6735.00	6898.42	Mesaverde
8891.00	9054.44	Sego
8996.00	9159.44	Castlegate
9422.00	9585.44	Blackhawk

#### WELL DETAILS: NBU 1022-9B4CS

+N/-S	+E/-W	Northing	Ground Level: Easting	5191.00 Latitude	39.970138	Longitude	Slot
0.00	0.00	14518973.35	2076348.80			-109.444135	

#### CASING DETAILS

TVD	MD	Name	Size
2399.67	2488.11	9 5/8"	8-5/8"



Azimuths to True North  
 Magnetic North: 10.96°

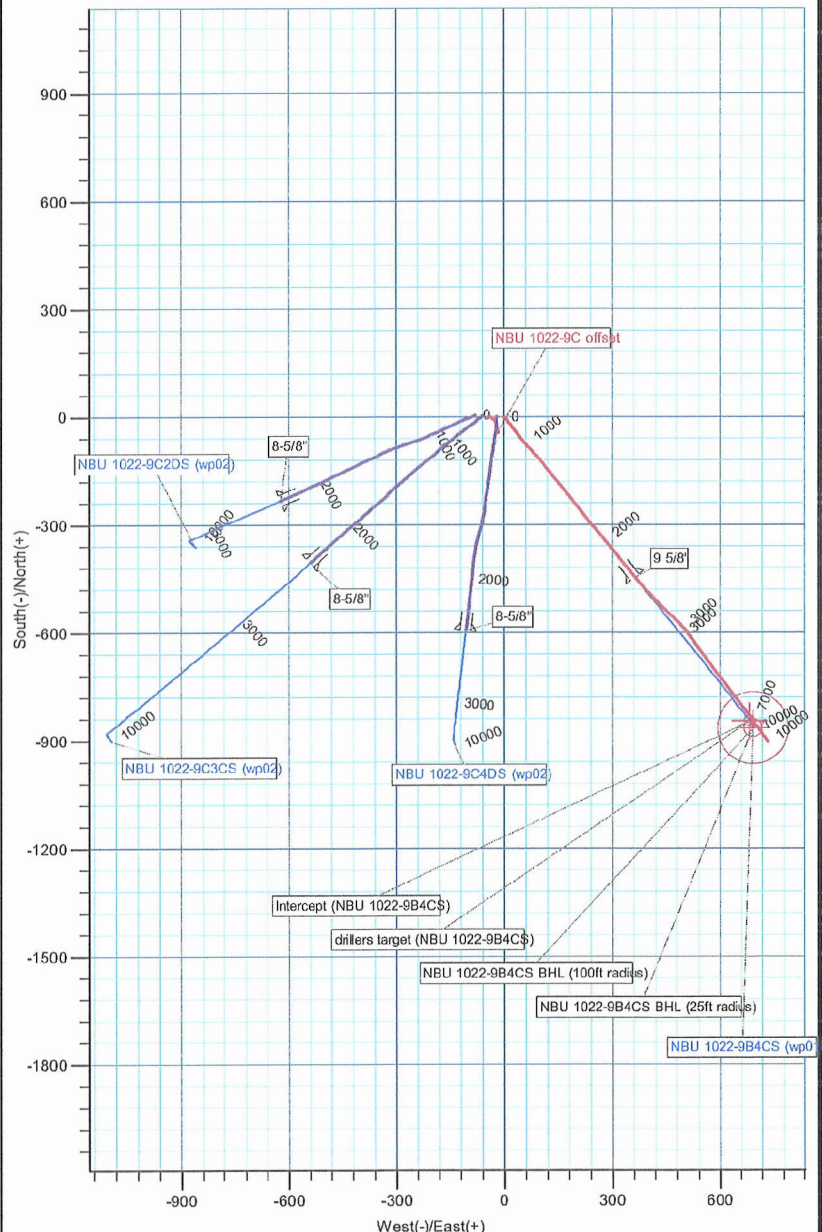
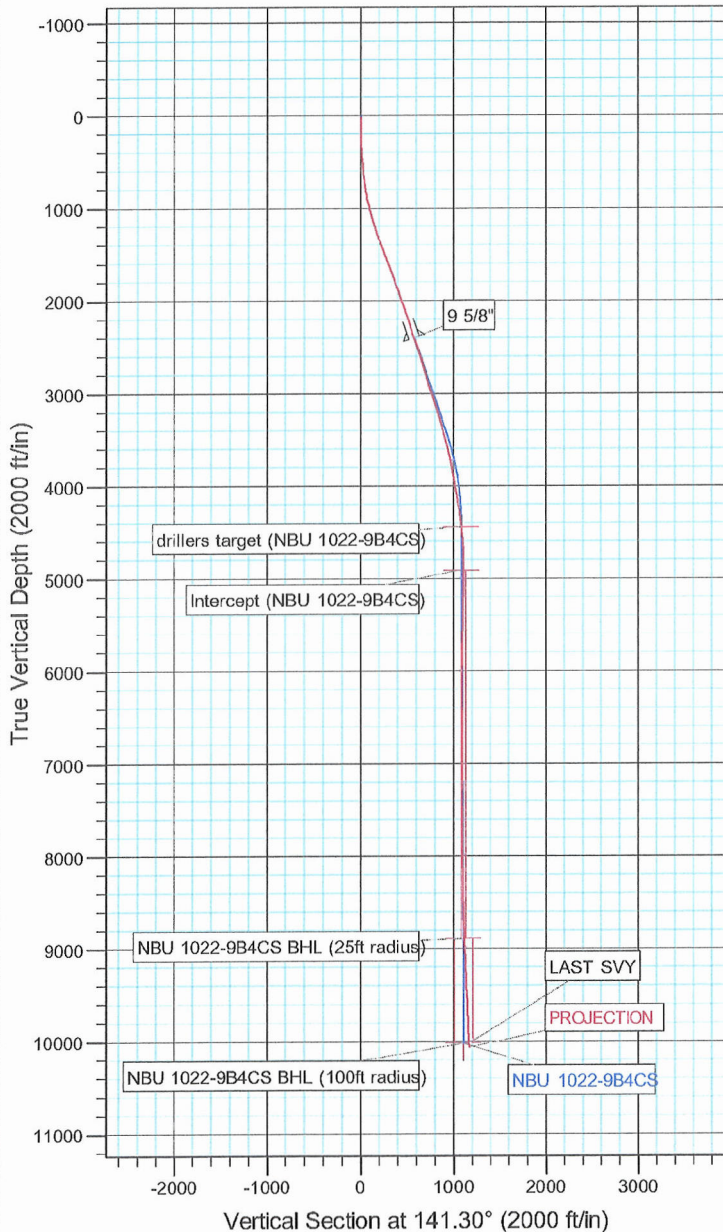
Magnetic Field  
 Strength: 52254.1nT  
 Dip Angle: 65.84°  
 Date: 2/7/2012  
 Model: IGRF2010

#### DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
drillers target (NBU 1022-9B4CS)	4444.00	-844.99	683.06	14518140.41	2077046.50	39.967818	-109.441698	Circle (Radius: 15.00)
Intercept (NBU 1022-9B4CS)	4913.00	-846.54	683.84	14518138.87	2077047.30	39.967814	-109.441695	Point
NBU 1022-9B4CS BHL (25ft radius)	8891.00	-864.99	693.06	14518120.58	2077056.84	39.967763	-109.441662	Circle (Radius: 25.00)
NBU 1022-9B4CS BHL (100ft radius)	10022.00	-864.99	693.06	14518120.58	2077056.84	39.967763	-109.441662	Circle (Radius: 100.00)

#### SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
2475.00	18.82	141.22	2387.26	-443.11	359.78	0.00	0.00	570.77
2625.00	18.82	141.22	2529.24	-480.83	390.09	0.00	0.00	619.16
2826.03	18.80	141.18	2530.21	-481.09	390.30	2.00	-144.39	619.49
3532.92	18.80	141.18	3388.71	-708.85	573.53	0.00	0.00	911.80
4607.40	0.00	0.00	4444.00	-844.99	683.06	1.75	180.00	1086.53
4684.51	0.23	153.44	4521.11	-845.13	683.13	0.30	153.44	1086.69
10185.45	0.23	153.44	10022.00	-864.99	693.06	0.00	0.00	1108.40





# Anadarko Petroleum Corp

## Survey Report

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well NBU 1022-9B4CS
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>TVD Reference:</b>	26' RKB + GL @ 5217.00ft
<b>Site:</b>	UINTAH_NBU 1022-9C Pad	<b>MD Reference:</b>	26' RKB + GL @ 5217.00ft
<b>Well:</b>	NBU 1022-9B4CS	<b>North Reference:</b>	True
<b>Wellbore:</b>	NBU 1022-9B4CS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	NBU 1022-9B4CS	<b>Database:</b>	edmp

<b>Project</b>	UTAH - UTM (feet), NAD27, Zone 12N		
<b>Map System:</b>	Universal Transverse Mercator (US Survey Feet)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b>	Zone 12N (114 W to 108 W)		

<b>Site</b>	UINTAH_NBU 1022-9C Pad				
<b>Site Position:</b>		<b>Northing:</b>	14,518,973.36 usft	<b>Latitude:</b>	39.970138
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,076,348.80 usft	<b>Longitude:</b>	-109.444135
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13-3/16 "	<b>Grid Convergence:</b>	1.00 °

<b>Well</b>	NBU 1022-9B4CS					
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b>	14,518,973.36 usft	<b>Latitude:</b>	39.970138
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b>	2,076,348.80 usft	<b>Longitude:</b>	-109.444135
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>	ft	<b>Ground Level:</b>	5,191.00 ft

<b>Wellbore</b>	NBU 1022-9B4CS				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	2/7/2012	10.96	65.84	52,254

<b>Design</b>	NBU 1022-9B4CS				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	17.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>	
	17.00	0.00	0.00	141.30	

<b>Survey Program</b>	<b>Date</b>	3/27/2012			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
248.00	2,475.00	Survey #1 (NBU 1022-9B4CS)	MWD	MWD - STANDARD	
2,560.00	10,225.00	Survey #2 (NBU 1022-9B4CS)	MWD	MWD - STANDARD	

<b>Survey</b>	<b>Measured Depth (ft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Vertical Section (ft)</b>	<b>Dogleg Rate (°/100usft)</b>	<b>Build Rate (°/100usft)</b>	<b>Turn Rate (°/100usft)</b>
	17.00	0.00	0.00	17.00	0.00	0.00	0.00	0.00	0.00	0.00
	248.00	0.45	128.08	248.00	-0.56	0.71	0.88	0.19	0.19	0.00
	339.00	2.28	136.56	338.97	-2.09	2.24	3.04	2.02	2.01	9.32
	429.00	4.72	137.35	428.79	-6.12	5.98	8.51	2.71	2.71	0.88
	523.00	5.88	148.43	522.39	-13.07	11.12	17.15	1.64	1.23	11.79
	617.00	6.65	142.47	615.83	-21.48	16.96	27.37	1.07	0.82	-6.34
	711.00	7.57	140.52	709.11	-30.58	24.21	39.00	1.01	0.98	-2.07
	805.00	9.15	141.39	802.11	-41.20	32.81	52.67	1.69	1.68	0.93
	900.00	11.34	142.10	895.59	-54.47	43.26	69.56	2.31	2.31	0.75
	993.00	13.10	141.66	986.47	-69.96	55.42	89.25	1.90	1.89	-0.47

# Anadarko Petroleum Corp

## Survey Report

**Company:** US ROCKIES REGION PLANNING  
**Project:** UTAH - UTM (feet), NAD27, Zone 12N  
**Site:** UINTAH\_NBU 1022-9C Pad  
**Well:** NBU 1022-9B4CS  
**Wellbore:** NBU 1022-9B4CS  
**Design:** NBU 1022-9B4CS

**Local Co-ordinate Reference:** Well NBU 1022-9B4CS  
**TVD Reference:** 26' RKB + GL @ 5217.00ft  
**MD Reference:** 26' RKB + GL @ 5217.00ft  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** edmp

### Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
1,086.00	15.20	138.62	1,076.65	-87.37	70.02	111.97	2.39	2.26	-3.27
1,179.00	17.12	138.24	1,165.97	-106.73	87.20	137.82	2.07	2.06	-0.41
1,273.00	18.62	139.39	1,255.43	-128.45	106.18	166.63	1.64	1.60	1.22
1,367.00	20.14	142.54	1,344.11	-152.69	125.79	197.81	1.96	1.62	3.35
1,462.00	21.10	141.39	1,433.02	-179.03	146.41	231.26	1.10	1.01	-1.21
1,557.00	20.84	140.34	1,521.73	-205.40	167.87	265.26	0.48	-0.27	-1.11
1,653.00	19.96	141.92	1,611.71	-231.45	188.87	298.72	1.08	-0.92	1.65
1,748.00	20.58	142.27	1,700.82	-257.42	209.09	331.63	0.66	0.65	0.37
1,844.00	21.37	141.04	1,790.46	-284.36	230.41	365.99	0.94	0.82	-1.28
1,937.00	18.64	139.55	1,877.84	-308.85	250.71	397.80	2.99	-2.94	-1.60
2,031.00	18.34	138.96	1,966.99	-331.44	270.17	427.59	0.38	-0.32	-0.63
2,126.00	18.20	141.66	2,057.20	-354.35	289.19	457.36	0.90	-0.15	2.84
2,219.00	19.35	141.92	2,145.25	-377.87	307.70	487.29	1.24	1.24	0.28
2,315.00	18.83	141.12	2,235.97	-402.45	327.23	518.68	0.61	-0.54	-0.83
2,410.00	19.17	141.48	2,325.80	-426.59	346.57	549.61	0.38	0.36	0.38
2,475.00	18.82	141.22	2,387.26	-443.11	359.78	570.77	0.55	-0.54	-0.40
2,560.00	18.18	138.52	2,467.87	-463.73	377.15	597.73	1.26	-0.75	-3.18
2,655.00	17.79	138.13	2,558.22	-485.64	396.66	627.02	0.43	-0.41	-0.41
2,749.00	16.19	135.12	2,648.12	-505.63	415.49	654.39	1.94	-1.70	-3.20
2,844.00	16.25	132.99	2,739.34	-524.07	434.56	680.71	0.63	0.06	-2.24
2,938.00	17.61	133.87	2,829.26	-542.90	454.43	707.82	1.47	1.45	0.94
3,032.00	17.63	134.87	2,918.85	-562.79	474.77	736.07	0.32	0.02	1.06
3,127.00	18.25	139.12	3,009.24	-584.19	494.70	765.23	1.52	0.65	4.47
3,222.00	16.94	143.62	3,099.80	-606.58	512.65	793.93	1.99	-1.38	4.74
3,316.00	16.06	145.37	3,189.93	-628.31	528.16	820.58	1.08	-0.94	1.86
3,410.00	16.63	145.37	3,280.13	-650.07	543.19	846.97	0.61	0.61	0.00
3,505.00	16.50	142.37	3,371.19	-671.94	559.16	874.01	0.91	-0.14	-3.16
3,599.00	16.25	142.87	3,461.37	-693.00	575.24	900.51	0.31	-0.27	0.53
3,694.00	14.63	141.74	3,552.94	-713.02	590.70	925.79	1.73	-1.71	-1.19
3,788.00	12.63	141.24	3,644.29	-730.36	604.48	947.94	2.13	-2.13	-0.53
3,883.00	11.13	143.99	3,737.25	-745.87	616.38	967.49	1.69	-1.58	2.89
3,977.00	10.31	142.62	3,829.61	-759.90	626.82	984.96	0.91	-0.87	-1.46
4,071.00	9.25	142.12	3,922.24	-772.55	636.56	1,000.93	1.13	-1.13	-0.53
4,166.00	10.38	139.24	4,015.85	-785.06	646.84	1,017.11	1.30	1.19	-3.03
4,260.00	10.69	140.12	4,108.27	-798.16	657.96	1,034.29	0.37	0.33	0.94
4,355.00	9.63	141.49	4,201.78	-811.14	668.56	1,051.05	1.14	-1.12	1.44
4,449.00	8.94	142.74	4,294.55	-823.10	677.87	1,066.21	0.76	-0.73	1.33
4,549.00	7.38	145.62	4,393.53	-834.59	686.21	1,080.39	1.61	-1.56	2.88
4,599.95	6.41	147.84	4,444.11	-839.70	689.57	1,086.47	1.98	-1.91	4.36
<b>drillers target (NBU 1022-9B4CS)</b>									
4,638.00	5.69	149.99	4,481.95	-843.13	691.64	1,090.45	1.98	-1.89	5.65
4,732.00	4.44	152.12	4,575.58	-850.38	695.67	1,098.63	1.34	-1.33	2.27
4,826.00	3.06	164.99	4,669.38	-856.02	698.02	1,104.50	1.71	-1.47	13.69

# Anadarko Petroleum Corp

## Survey Report

Company: US ROCKIES REGION PLANNING  
 Project: UTAH - UTM (feet), NAD27, Zone 12N  
 Site: UINTAH\_NBU 1022-9C Pad  
 Well: NBU 1022-9B4CS  
 Wellbore: NBU 1022-9B4CS  
 Design: NBU 1022-9B4CS

Local Co-ordinate Reference: Well NBU 1022-9B4CS  
 TVD Reference: 26' RKB + GL @ 5217.00ft  
 MD Reference: 26' RKB + GL @ 5217.00ft  
 North Reference: True  
 Survey Calculation Method: Minimum Curvature  
 Database: edmp

### Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,921.00	1.94	185.99	4,764.29	-860.07	698.51	1,107.96	1.50	-1.18	22.11
5,015.00	1.06	227.87	4,858.26	-862.23	697.70	1,109.15	1.44	-0.94	44.55
5,069.96	0.93	277.26	4,913.21	-862.52	696.88	1,108.86	1.53	-0.24	89.88
Intercept (NBU 1022-9B4CS)									
5,110.00	1.25	305.24	4,953.24	-862.23	696.20	1,108.20	1.53	0.80	69.87
5,204.00	1.56	316.49	5,047.22	-860.71	694.49	1,105.94	0.44	0.33	11.97
5,299.00	1.38	310.12	5,142.18	-859.03	692.72	1,103.53	0.26	-0.19	-6.71
5,393.00	1.06	312.12	5,236.16	-857.72	691.21	1,101.56	0.34	-0.34	2.13
5,487.00	0.75	295.54	5,330.15	-856.87	690.01	1,100.15	0.43	-0.33	-17.64
5,582.00	1.06	305.74	5,425.14	-856.09	688.74	1,098.75	0.37	0.33	10.74
5,676.00	0.69	306.24	5,519.13	-855.25	687.57	1,097.36	0.39	-0.39	0.53
5,771.00	1.31	343.37	5,614.11	-853.87	686.80	1,095.80	0.91	0.65	39.08
5,865.00	1.13	348.24	5,708.09	-851.93	686.31	1,093.98	0.22	-0.19	5.18
5,960.00	0.63	357.99	5,803.08	-850.49	686.10	1,092.73	0.55	-0.53	10.26
6,054.00	1.00	3.49	5,897.07	-849.16	686.13	1,091.70	0.40	0.39	5.85
6,149.00	0.94	10.74	5,992.06	-847.56	686.32	1,090.58	0.14	-0.06	7.63
6,243.00	0.50	29.24	6,086.05	-846.45	686.67	1,089.93	0.52	-0.47	19.68
6,338.00	0.50	58.99	6,181.05	-845.87	687.23	1,089.83	0.27	0.00	31.32
6,433.00	0.38	123.62	6,276.04	-845.83	687.84	1,090.18	0.51	-0.13	68.03
6,527.00	0.44	120.37	6,370.04	-846.19	688.41	1,090.82	0.07	0.06	-3.46
6,621.00	0.50	146.74	6,464.04	-846.71	688.95	1,091.56	0.24	0.06	28.05
6,716.00	0.69	153.49	6,559.03	-847.57	689.43	1,092.54	0.21	0.20	7.11
6,810.00	0.94	157.87	6,653.02	-848.79	689.98	1,093.83	0.27	0.27	4.66
6,904.00	0.38	215.37	6,747.02	-849.76	690.09	1,094.65	0.85	-0.60	61.17
6,999.00	1.00	305.99	6,842.01	-849.53	689.23	1,093.94	1.13	0.65	95.39
7,094.00	0.63	307.49	6,937.00	-848.73	688.15	1,092.63	0.39	-0.39	1.58
7,188.00	0.25	268.12	7,031.00	-848.42	687.53	1,092.01	0.49	-0.40	-41.88
7,283.00	0.69	38.87	7,126.00	-847.98	687.68	1,091.76	0.92	0.46	137.63
7,379.00	1.13	36.37	7,221.99	-846.77	688.61	1,091.39	0.46	0.46	-2.60
7,472.00	1.06	49.74	7,314.97	-845.47	689.81	1,091.13	0.28	-0.08	14.38
7,566.00	1.13	52.12	7,408.95	-844.34	691.20	1,091.12	0.09	0.07	2.53
7,660.00	0.69	55.74	7,502.94	-843.46	692.40	1,091.18	0.47	-0.47	3.85
7,755.00	0.25	108.74	7,597.94	-843.20	693.07	1,091.40	0.61	-0.46	55.79
7,850.00	0.63	145.62	7,692.93	-843.70	693.56	1,092.09	0.48	0.40	38.82
7,944.00	0.75	166.12	7,786.93	-844.72	694.00	1,093.17	0.29	0.13	21.81
8,038.00	0.88	159.99	7,880.92	-846.00	694.40	1,094.41	0.17	0.14	-6.52
8,133.00	0.69	169.24	7,975.91	-847.24	694.75	1,095.61	0.24	-0.20	9.74
8,228.00	0.75	149.62	8,070.90	-848.34	695.18	1,096.73	0.27	0.06	-20.65
8,322.00	0.81	167.37	8,164.89	-849.52	695.63	1,097.93	0.26	0.06	18.88
8,416.00	0.69	172.99	8,258.89	-850.73	695.85	1,099.01	0.15	-0.13	5.98
8,511.00	0.69	143.49	8,353.88	-851.76	696.26	1,100.07	0.37	0.00	-31.05
8,605.00	1.38	135.87	8,447.86	-853.03	697.38	1,101.76	0.75	0.73	-8.11
8,700.00	1.69	139.24	8,542.83	-854.91	699.09	1,104.30	0.34	0.33	3.55
8,794.00	1.94	138.94	8,636.78	-857.16	701.04	1,107.27	0.27	0.27	-0.32

# Anadarko Petroleum Corp

## Survey Report

**Company:** US ROCKIES REGION PLANNING  
**Project:** UTAH - UTM (feet), NAD27, Zone 12N  
**Site:** UINTAH\_NBU 1022-9C Pad  
**Well:** NBU 1022-9B4CS  
**Wellbore:** NBU 1022-9B4CS  
**Design:** NBU 1022-9B4CS

**Local Co-ordinate Reference:** Well NBU 1022-9B4CS  
**TVD Reference:** 26' RKB + GL @ 5217.00ft  
**MD Reference:** 26' RKB + GL @ 5217.00ft  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** edmp

### Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,889.00	2.06	133.62	8,731.72	-859.55	703.33	1,110.57	0.23	0.13	-5.60
8,983.00	1.75	130.24	8,825.67	-861.64	705.65	1,113.66	0.35	-0.33	-3.60
9,048.10	1.95	140.60	8,890.74	-863.14	707.12	1,115.74	0.60	0.31	15.91
<b>NBU 1022-9B4CS BHL (25ft radius)</b>									
9,078.00	2.06	144.62	8,920.62	-863.97	707.75	1,116.78	0.60	0.37	13.45
9,172.00	2.25	144.87	9,014.55	-866.86	709.79	1,120.31	0.20	0.20	0.27
9,266.00	2.13	147.12	9,108.48	-869.83	711.80	1,123.89	0.16	-0.13	2.39
9,361.00	2.44	148.12	9,203.41	-873.03	713.83	1,127.66	0.33	0.33	1.05
9,458.00	2.44	151.99	9,300.32	-876.61	715.89	1,131.74	0.17	0.00	3.99
9,553.00	2.38	150.62	9,395.24	-880.11	717.80	1,135.67	0.09	-0.06	-1.44
9,647.00	2.50	145.87	9,489.15	-883.51	719.91	1,139.64	0.25	0.13	-5.05
9,742.00	2.63	134.87	9,584.06	-886.76	722.62	1,143.87	0.54	0.14	-11.58
9,837.00	2.38	145.49	9,678.97	-889.93	725.28	1,148.00	0.55	-0.26	11.18
9,931.00	2.50	143.74	9,772.88	-893.19	727.60	1,152.00	0.15	0.13	-1.86
10,026.00	2.56	143.99	9,867.79	-896.58	730.07	1,156.19	0.06	0.06	0.26
10,120.00	2.50	144.99	9,961.70	-899.95	732.48	1,160.33	0.08	-0.06	1.06
10,165.00	2.69	142.87	10,006.65	-901.60	733.68	1,162.37	0.47	0.42	-4.71
<b>LAST SVY - NBU 1022-9B4CS BHL (100ft radius)</b>									
10,225.00	2.69	142.87	10,066.58	-903.84	735.38	1,165.18	0.00	0.00	0.00
<b>PROJECTION</b>									

### Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
10,165.00	10,006.65	-901.60	733.68	LAST SVY
10,225.00	10,066.58	-903.84	735.38	PROJECTION

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_

# **US ROCKIES REGION PLANNING**

**UTAH - UTM (feet), NAD27, Zone 12N**

**UINTAH\_NBU 1022-9C Pad**

**NBU 1022-9B4CS**

**NBU 1022-9B4CS**

**Design: NBU 1022-9B4CS**

## **Survey Report - Geographic**

**28 March, 2012**

# Anadarko Petroleum Corp

## Survey Report - Geographic

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well NBU 1022-9B4CS
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>TVD Reference:</b>	26' RKB + GL @ 5217.00ft
<b>Site:</b>	UINTAH_NBU 1022-9C Pad	<b>MD Reference:</b>	26' RKB + GL @ 5217.00ft
<b>Well:</b>	NBU 1022-9B4CS	<b>North Reference:</b>	True
<b>Wellbore:</b>	NBU 1022-9B4CS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	NBU 1022-9B4CS	<b>Database:</b>	edmp

<b>Project</b>	UTAH - UTM (feet), NAD27, Zone 12N		
<b>Map System:</b>	Universal Transverse Mercator (US Survey Feet)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b>	Zone 12N (114 W to 108 W)		

<b>Site</b>	UINTAH_NBU 1022-9C Pad				
<b>Site Position:</b>		<b>Northing:</b>	14,518,973.36 usft	<b>Latitude:</b>	39.970138
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,076,348.80 usft	<b>Longitude:</b>	-109.444135
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13-3/16 "	<b>Grid Convergence:</b>	1.00 °

<b>Well</b>	NBU 1022-9B4CS					
<b>Well Position</b>	+N/-S	0.00 ft	<b>Northing:</b>	14,518,973.36 usft	<b>Latitude:</b>	39.970138
	+E/-W	0.00 ft	<b>Easting:</b>	2,076,348.80 usft	<b>Longitude:</b>	-109.444135
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>	ft	<b>Ground Level:</b>	5,191.00 ft

<b>Wellbore</b>	NBU 1022-9B4CS				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	2/7/2012	10.96	65.84	52,254

<b>Design</b>	NBU 1022-9B4CS				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	17.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>	
	17.00	0.00	0.00	141.30	

<b>Survey Program</b>	<b>Date</b>	3/27/2012		
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
248.00	2,475.00	Survey #1 (NBU 1022-9B4CS)	MWD	MWD - STANDARD
2,560.00	10,225.00	Survey #2 (NBU 1022-9B4CS)	MWD	MWD - STANDARD

<b>Survey</b>									
<b>Measured Depth (ft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Map Northing (usft)</b>	<b>Map Easting (usft)</b>	<b>Latitude</b>	<b>Longitude</b>
17.00	0.00	0.00	17.00	0.00	0.00	14,518,973.36	2,076,348.80	39.970138	-109.444135
248.00	0.45	128.08	248.00	-0.56	0.71	14,518,972.81	2,076,349.52	39.970137	-109.444133
339.00	2.28	136.56	338.97	-2.09	2.24	14,518,971.30	2,076,351.07	39.970132	-109.444127
429.00	4.72	137.35	428.79	-6.12	5.98	14,518,967.35	2,076,354.88	39.970121	-109.444114
523.00	5.88	148.43	522.39	-13.07	11.12	14,518,960.49	2,076,360.14	39.970102	-109.444096
617.00	6.65	142.47	615.83	-21.48	16.96	14,518,952.17	2,076,366.13	39.970079	-109.444075
711.00	7.57	140.52	709.11	-30.58	24.21	14,518,943.21	2,076,373.54	39.970054	-109.444049
805.00	9.15	141.39	802.11	-41.20	32.81	14,518,932.74	2,076,382.32	39.970025	-109.444018
900.00	11.34	142.10	895.59	-54.47	43.26	14,518,919.65	2,076,393.00	39.969989	-109.443981
993.00	13.10	141.66	986.47	-69.96	55.42	14,518,904.38	2,076,405.43	39.969946	-109.443938
1,086.00	15.20	138.62	1,076.65	-87.37	70.02	14,518,887.22	2,076,420.33	39.969898	-109.443885



# Anadarko Petroleum Corp

## Survey Report - Geographic

**Company:** US ROCKIES REGION PLANNING  
**Project:** UTAH - UTM (feet), NAD27, Zone 12N  
**Site:** UINTAH\_NBU 1022-9C Pad  
**Well:** NBU 1022-9B4CS  
**Wellbore:** NBU 1022-9B4CS  
**Design:** NBU 1022-9B4CS

**Local Co-ordinate Reference:** Well NBU 1022-9B4CS  
**TVD Reference:** 26' RKB + GL @ 5217.00ft  
**MD Reference:** 26' RKB + GL @ 5217.00ft  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** edmp

### Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
1,179.00	17.12	138.24	1,165.97	-106.73	87.20	14,518,868.16	2,076,437.84	39.969845	-109.443824
1,273.00	18.62	139.39	1,255.43	-128.45	106.18	14,518,846.78	2,076,457.20	39.969785	-109.443756
1,367.00	20.14	142.54	1,344.11	-152.69	125.79	14,518,822.89	2,076,477.23	39.969719	-109.443686
1,462.00	21.10	141.39	1,433.02	-179.03	146.41	14,518,796.91	2,076,498.31	39.969647	-109.443613
1,557.00	20.84	140.34	1,521.73	-205.40	167.87	14,518,770.91	2,076,520.22	39.969574	-109.443536
1,653.00	19.96	141.92	1,611.71	-231.45	188.87	14,518,745.24	2,076,541.68	39.969503	-109.443461
1,748.00	20.58	142.27	1,700.82	-257.42	209.09	14,518,719.63	2,076,562.34	39.969431	-109.443389
1,844.00	21.37	141.04	1,790.46	-284.36	230.41	14,518,693.06	2,076,584.13	39.969357	-109.443313
1,937.00	18.64	139.55	1,877.84	-308.85	250.71	14,518,668.93	2,076,604.86	39.969290	-109.443241
2,031.00	18.34	138.96	1,966.99	-331.44	270.17	14,518,646.68	2,076,624.71	39.969228	-109.443171
2,126.00	18.20	141.66	2,057.20	-354.35	289.19	14,518,624.11	2,076,644.12	39.969165	-109.443103
2,219.00	19.35	141.92	2,145.25	-377.87	307.70	14,518,600.91	2,076,663.04	39.969101	-109.443037
2,315.00	18.83	141.12	2,235.97	-402.45	327.23	14,518,576.68	2,076,683.00	39.969033	-109.442968
2,410.00	19.17	141.48	2,325.80	-426.59	346.57	14,518,552.88	2,076,702.76	39.968967	-109.442899
2,475.00	18.82	141.22	2,387.26	-443.11	359.78	14,518,536.59	2,076,716.25	39.968921	-109.442851
2,560.00	18.18	138.52	2,467.87	-463.73	377.15	14,518,516.28	2,076,733.98	39.968865	-109.442789
2,655.00	17.79	138.13	2,558.22	-485.64	396.66	14,518,494.71	2,076,753.86	39.968805	-109.442720
2,749.00	16.19	135.12	2,648.12	-505.63	415.49	14,518,475.06	2,076,773.04	39.968750	-109.442653
2,844.00	16.25	132.99	2,739.34	-524.07	434.56	14,518,456.95	2,076,792.43	39.968699	-109.442585
2,938.00	17.61	133.87	2,829.26	-542.90	454.43	14,518,438.47	2,076,812.63	39.968647	-109.442514
3,032.00	17.63	134.87	2,918.85	-562.79	474.77	14,518,418.93	2,076,833.31	39.968593	-109.442441
3,127.00	18.25	139.12	3,009.24	-584.19	494.70	14,518,397.89	2,076,853.61	39.968534	-109.442370
3,222.00	16.94	143.62	3,099.80	-606.58	512.65	14,518,375.81	2,076,871.95	39.968473	-109.442306
3,316.00	16.06	145.37	3,189.93	-628.31	528.16	14,518,354.36	2,076,887.84	39.968413	-109.442251
3,410.00	16.63	145.37	3,280.13	-650.07	543.19	14,518,332.86	2,076,903.25	39.968353	-109.442197
3,505.00	16.50	142.37	3,371.19	-671.94	559.16	14,518,311.27	2,076,919.59	39.968293	-109.442140
3,599.00	16.25	142.87	3,461.37	-693.00	575.24	14,518,290.50	2,076,936.04	39.968235	-109.442083
3,694.00	14.63	141.74	3,552.94	-713.02	590.70	14,518,270.75	2,076,951.84	39.968180	-109.442028
3,788.00	12.63	141.24	3,644.29	-730.36	604.48	14,518,253.66	2,076,965.93	39.968133	-109.441978
3,883.00	11.13	143.99	3,737.25	-745.87	616.38	14,518,238.35	2,076,978.09	39.968090	-109.441936
3,977.00	10.31	142.62	3,829.61	-759.90	626.82	14,518,224.51	2,076,988.78	39.968052	-109.441899
4,071.00	9.25	142.12	3,922.24	-772.55	636.56	14,518,212.04	2,076,998.74	39.968017	-109.441864
4,166.00	10.38	139.24	4,015.85	-785.06	646.84	14,518,199.71	2,077,009.23	39.967983	-109.441827
4,260.00	10.69	140.12	4,108.27	-798.16	657.96	14,518,186.80	2,077,020.58	39.967947	-109.441788
4,355.00	9.63	141.49	4,201.78	-811.14	668.56	14,518,174.01	2,077,031.40	39.967911	-109.441750
4,449.00	8.94	142.74	4,294.55	-823.10	677.87	14,518,162.21	2,077,040.93	39.967878	-109.441716
4,549.00	7.38	145.62	4,393.53	-834.59	686.21	14,518,150.87	2,077,049.46	39.967847	-109.441687
4,599.95	6.41	147.84	4,444.11	-839.70	689.57	14,518,145.82	2,077,052.91	39.967833	-109.441675
<b>drillers target (NBU 1022-9B4CS)</b>									
4,638.00	5.69	149.99	4,481.95	-843.13	691.64	14,518,142.43	2,077,055.04	39.967823	-109.441667
4,732.00	4.44	152.12	4,575.58	-850.38	695.67	14,518,135.25	2,077,059.20	39.967803	-109.441653
4,826.00	3.06	164.99	4,669.38	-856.02	698.02	14,518,129.65	2,077,061.65	39.967788	-109.441645
4,921.00	1.94	185.99	4,764.29	-860.07	698.51	14,518,125.61	2,077,062.21	39.967777	-109.441643
5,015.00	1.06	227.87	4,858.26	-862.23	697.70	14,518,123.43	2,077,061.43	39.967771	-109.441646
5,069.96	0.93	277.26	4,913.21	-862.52	696.88	14,518,123.13	2,077,060.62	39.967770	-109.441649
<b>Intercept (NBU 1022-9B4CS)</b>									
5,110.00	1.25	305.24	4,953.24	-862.23	696.20	14,518,123.41	2,077,059.94	39.967771	-109.441651
5,204.00	1.56	316.49	5,047.22	-860.71	694.49	14,518,124.90	2,077,058.19	39.967775	-109.441657
5,299.00	1.38	310.12	5,142.18	-859.03	692.72	14,518,126.54	2,077,056.40	39.967779	-109.441663
5,393.00	1.06	312.12	5,236.16	-857.72	691.21	14,518,127.83	2,077,054.86	39.967783	-109.441669
5,487.00	0.75	295.54	5,330.15	-856.87	690.01	14,518,128.66	2,077,053.65	39.967785	-109.441673
5,582.00	1.06	305.74	5,425.14	-856.09	688.74	14,518,129.42	2,077,052.36	39.967788	-109.441678
5,676.00	0.69	306.24	5,519.13	-855.25	687.57	14,518,130.24	2,077,051.19	39.967790	-109.441682
5,771.00	1.31	343.37	5,614.11	-853.87	686.80	14,518,131.60	2,077,050.39	39.967794	-109.441685
5,865.00	1.13	348.24	5,708.09	-851.93	686.31	14,518,133.53	2,077,049.86	39.967799	-109.441686

# Anadarko Petroleum Corp

## Survey Report - Geographic

**Company:** US ROCKIES REGION PLANNING  
**Project:** UTAH - UTM (feet), NAD27, Zone 12N  
**Site:** UINTAH\_NBU 1022-9C Pad  
**Well:** NBU 1022-9B4CS  
**Wellbore:** NBU 1022-9B4CS  
**Design:** NBU 1022-9B4CS

**Local Co-ordinate Reference:** Well NBU 1022-9B4CS  
**TVD Reference:** 26' RKB + GL @ 5217.00ft  
**MD Reference:** 26' RKB + GL @ 5217.00ft  
**North Reference:** True  
**Survey Calculation Method:** Minimum Curvature  
**Database:** edmp

### Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
5,960.00	0.63	357.99	5,803.08	-850.49	686.10	14,518,134.97	2,077,049.62	39.967803	-109.441687
6,054.00	1.00	3.49	5,897.07	-849.16	686.13	14,518,136.30	2,077,049.63	39.967807	-109.441687
6,149.00	0.94	10.74	5,992.06	-847.56	686.32	14,518,137.90	2,077,049.80	39.967811	-109.441686
6,243.00	0.50	29.24	6,086.05	-846.45	686.67	14,518,139.02	2,077,050.13	39.967814	-109.441685
6,338.00	0.50	58.99	6,181.05	-845.87	687.23	14,518,139.61	2,077,050.67	39.967816	-109.441683
6,433.00	0.38	123.62	6,276.04	-845.83	687.84	14,518,139.66	2,077,051.29	39.967816	-109.441681
6,527.00	0.44	120.37	6,370.04	-846.19	688.41	14,518,139.31	2,077,051.87	39.967815	-109.441679
6,621.00	0.50	146.74	6,464.04	-846.71	688.95	14,518,138.79	2,077,052.41	39.967813	-109.441677
6,716.00	0.69	153.49	6,559.03	-847.57	689.43	14,518,137.94	2,077,052.91	39.967811	-109.441675
6,810.00	0.94	157.87	6,653.02	-848.79	689.98	14,518,136.73	2,077,053.47	39.967808	-109.441673
6,904.00	0.38	215.37	6,747.02	-849.76	690.09	14,518,135.77	2,077,053.60	39.967805	-109.441673
6,999.00	1.00	305.99	6,842.01	-849.53	689.23	14,518,135.98	2,077,052.74	39.967806	-109.441676
7,094.00	0.63	307.49	6,937.00	-848.73	688.15	14,518,136.77	2,077,051.65	39.967808	-109.441680
7,188.00	0.25	268.12	7,031.00	-848.42	687.53	14,518,137.06	2,077,051.02	39.967809	-109.441682
7,283.00	0.69	38.87	7,126.00	-847.98	687.68	14,518,137.51	2,077,051.17	39.967810	-109.441681
7,379.00	1.13	36.37	7,221.99	-846.77	688.61	14,518,138.73	2,077,052.07	39.967813	-109.441678
7,472.00	1.06	49.74	7,314.97	-845.47	689.81	14,518,140.05	2,077,053.25	39.967817	-109.441674
7,566.00	1.13	52.12	7,408.95	-844.34	691.20	14,518,141.20	2,077,054.62	39.967820	-109.441669
7,660.00	0.69	55.74	7,502.94	-843.46	692.40	14,518,142.11	2,077,055.81	39.967822	-109.441665
7,755.00	0.25	108.74	7,597.94	-843.20	693.07	14,518,142.38	2,077,056.47	39.967823	-109.441662
7,850.00	0.63	145.62	7,692.93	-843.70	693.56	14,518,141.89	2,077,056.97	39.967822	-109.441660
7,944.00	0.75	166.12	7,786.93	-844.72	694.00	14,518,140.88	2,077,057.43	39.967819	-109.441659
8,038.00	0.88	159.99	7,880.92	-846.00	694.40	14,518,139.61	2,077,057.85	39.967815	-109.441658
8,133.00	0.69	169.24	7,975.91	-847.24	694.75	14,518,138.37	2,077,058.22	39.967812	-109.441656
8,228.00	0.75	149.62	8,070.90	-848.34	695.18	14,518,137.27	2,077,058.66	39.967809	-109.441655
8,322.00	0.81	167.37	8,164.89	-849.52	695.63	14,518,136.10	2,077,059.14	39.967806	-109.441653
8,416.00	0.69	172.99	8,258.89	-850.73	695.85	14,518,134.90	2,077,059.38	39.967802	-109.441652
8,511.00	0.69	143.49	8,353.88	-851.76	696.26	14,518,133.88	2,077,059.81	39.967799	-109.441651
8,605.00	1.38	135.87	8,447.86	-853.03	697.38	14,518,132.63	2,077,060.95	39.967796	-109.441647
8,700.00	1.69	139.24	8,542.83	-854.91	699.09	14,518,130.78	2,077,062.70	39.967791	-109.441641
8,794.00	1.94	138.94	8,636.78	-857.16	701.04	14,518,128.56	2,077,064.68	39.967785	-109.441634
8,889.00	2.06	133.62	8,731.72	-859.55	703.33	14,518,126.21	2,077,067.02	39.967778	-109.441626
8,983.00	1.75	130.24	8,825.67	-861.64	705.65	14,518,124.16	2,077,069.37	39.967772	-109.441617
9,048.10	1.95	140.60	8,890.74	-863.14	707.12	14,518,122.69	2,077,070.86	39.967768	-109.441612
<b>NBU 1022-9B4CS BHL (25ft radius)</b>									
9,078.00	2.06	144.62	8,920.62	-863.97	707.75	14,518,121.87	2,077,071.51	39.967766	-109.441610
9,172.00	2.25	144.87	9,014.55	-866.86	709.79	14,518,119.02	2,077,073.60	39.967758	-109.441603
9,266.00	2.13	147.12	9,108.48	-869.83	711.80	14,518,116.08	2,077,075.66	39.967750	-109.441595
9,361.00	2.44	148.12	9,203.41	-873.03	713.83	14,518,112.91	2,077,077.74	39.967741	-109.441588
9,458.00	2.44	151.99	9,300.32	-876.61	715.89	14,518,109.37	2,077,079.87	39.967731	-109.441581
9,553.00	2.38	150.62	9,395.24	-880.11	717.80	14,518,105.90	2,077,081.84	39.967722	-109.441574
9,647.00	2.50	145.87	9,489.15	-883.51	719.91	14,518,102.54	2,077,084.01	39.967712	-109.441566
9,742.00	2.63	134.87	9,584.06	-886.76	722.62	14,518,099.34	2,077,086.77	39.967703	-109.441557
9,837.00	2.38	145.49	9,678.97	-889.93	725.28	14,518,096.22	2,077,089.49	39.967695	-109.441547
9,931.00	2.50	143.74	9,772.88	-893.19	727.60	14,518,093.00	2,077,091.87	39.967686	-109.441539
10,026.00	2.56	143.99	9,867.79	-896.58	730.07	14,518,089.66	2,077,094.40	39.967676	-109.441530
10,120.00	2.50	144.99	9,961.70	-899.95	732.48	14,518,086.32	2,077,096.87	39.967667	-109.441522
10,165.00	2.69	142.87	10,006.65	-901.60	733.68	14,518,084.70	2,077,098.10	39.967663	-109.441517
<b>LAST SVY - NBU 1022-9B4CS BHL (100ft radius)</b>									
10,225.00	2.69	142.87	10,066.58	-903.84	735.38	14,518,082.48	2,077,099.83	39.967656	-109.441511
<b>PROJECTION</b>									

# Anadarko Petroleum Corp

## Survey Report - Geographic

<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well NBU 1022-9B4CS
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>TVD Reference:</b>	26' RKB + GL @ 5217.00ft
<b>Site:</b>	UINTAH_NBU 1022-9C Pad	<b>MD Reference:</b>	26' RKB + GL @ 5217.00ft
<b>Well:</b>	NBU 1022-9B4CS	<b>North Reference:</b>	True
<b>Wellbore:</b>	NBU 1022-9B4CS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	NBU 1022-9B4CS	<b>Database:</b>	edmp

### Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
10,165.00	10,006.65	-901.60	733.68	LAST SVY
10,225.00	10,066.58	-903.84	735.38	PROJECTION

Checked By: _____	Approved By: _____	Date: _____
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